

Curriculum Vitae

Date Prepared: June 17, 2022

Name: Charles A. Czeisler, Ph.D., M.D., F.R.C.P., F.A.P.S.

Office Address: Division of Sleep and Circadian Disorders
Brigham and Women's Hospital
221 Longwood Avenue, Suite 438
Boston, MA 02115

Work Phone: 617-732-4013

Work Email: charles_czeisler@hms.harvard.edu

Work FAX: 617-732-4015

Place of Birth: Chicago, Illinois

Education

1974	A.B. (<i>magna cum laude</i>)	Biochemistry and Molecular Biology	Harvard College, Cambridge, MA
1978	Ph.D.	Neuro- and Biobehavioral Sciences (William C. Dement M.D., Ph.D.)	Stanford University, Stanford, CA
1981	M.D.	Medical Doctor	Stanford University School of Medicine, Stanford, CA

Postdoctoral Training

1981-1983	Senior Fellow	Health Policy (David A. Hamburg, M.D.)	Center for Health Policy and Management, John F. Kennedy School of Government, Harvard University, Cambridge, MA
-----------	---------------	----------------------------------------	------------------------------------------------------------------------------------------------------------------

Faculty Academic Appointments

1978	Adjunct Instructor	Biological Sciences	Graduate School of Arts and Sciences, Fordham University, Bronx, NY
1979	Lecturer	Undergraduate Studies	Stanford University
1979-1980	Research Associate	Physiology	Harvard Medical School, Boston, MA
1982-1983	Research Associate	Medicine	Harvard Medical School
1983-1987	Assistant Professor	Medicine	Harvard Medical School
1987-1998	Associate Professor	Medicine	Harvard Medical School
1994-	Affiliate Faculty	Program in Neuroscience	Harvard Medical School
1998-	Professor of Medicine	Medicine	Harvard Medical School

2004-	Frank Baldino, Jr., Ph.D. Professor of Sleep Medicine	Medicine	Harvard Medical School
2014-	Associate of Molecular and Cellular Biology	Molecular and Cellular Biology	Faculty of Arts and Sciences, Harvard University, Cambridge, MA
2019-	Senior Faculty	Harvard College Program in General Education	Faculty of Arts and Sciences, Harvard University

Appointments at Hospitals/Affiliated Institutions

1976-1978	Research Associate	Neurology	Montefiore Hospital, Albert Einstein College of Medicine, Bronx, NY
1982-1992	Associate Physician	Medicine, Endocrine Division	Brigham and Women's Hospital, Boston, MA
1992-1998	Physician	Medicine, Endocrine Division	Brigham and Women's Hospital, Boston, MA
1998-	Senior Physician	Medicine, Division of Sleep Medicine	Brigham and Women's Hospital, Boston, MA
1999-2014	Affiliate Faculty	Health, Science and Technology Program	Harvard Medical School/ Massachusetts Institute of Technology, Cambridge, MA

Other Professional Positions

1981-1993	Founder and Director	Center for Design of Industrial Schedules, Boston, MA
1991-1994	Consultant	Light Sciences, Inc., Braintree, MA
1993-1994	Consultant	ShiftWork Systems, Inc., Cambridge, MA
1996-	Member, Board of Trustees	Institute for Experimental Psychiatry Research Foundation, Milton, MA
2000-2011	Consultant	Cephalon, Inc., West Chester, PA (after 2005, Frazer, PA)
2001-2005	Consultant	Lifetrac, Inc., Biddeford, ME
2002-2003, 2006	Consultant	Pfizer, Inc., New York, NY
2003-2006	Member Circadian Rhythm Sleep Disorders Advisory Board, and Consultant	Takeda Pharmaceuticals North America, Inc., Lincolnshire, IL
2003-2011	Consultant	Respironics, Inc., Murrysville, PA
2004	Consultant	Unilever, Inc., London, UK
2004	Consultant and Member, Sleep-Wake Medicine Executive Advisory Board	Cephalon, Inc., Frazer, PA
2004-2007	Consultant and Member, Medical and Scientific Advisory Board	Hypnion, Inc., Lexington, MA
2004-2005,	Consultant/Expert Witness	Columbia River Bar Pilots, Astoria OR

2010		
2004-2013	Consultant	Sleep Multimedia, Inc.
2004-	Consultant	Vanda Pharmaceuticals, Inc., Washington DC
2005	Consultant	Warburg-Pincus
2005	Consultant	Morgan Stanley
2005	Consultant	Avera Pharmaceuticals, Inc., San Diego, CA
2005-2008	Consultant	Actelion Pharmaceuticals Ltd, Allschwil, Switzerland
2005-2010	Consultant	Norfolk Southern
2005-	Chair, Scientific Advisory Board	Vanda Pharmaceuticals, Inc., Washington DC
2007	Consultant	Fedex Kinko's/Ketchum Inc.
2007-2009	Consultant	Sepracor, Inc., Marlborough, MA
2007-2010	Consultant	Somnus Therapeutics, Inc., Bedminster, NJ
2007-2010	Consultant	Eli Lilly and Co., Indianapolis, IN
2008-2009	Consultant	Garda Síochána Inspectorate (Dublin, Ireland)
2008-2009	Consultant	Sanofi-Aventis, Inc.
2008-2010	Consultant	Johnson & Johnson
2008-2011	Consultant	Portland Trailblazers
2008-2011	Consultant	Koninklijke Philips Electronics, N.V.
2008-2013	Consultant and Member, Scientific Advisory Board	Zeo, Inc. (formerly Axon Labs, Inc.) Newton, MA
2009	Consultant/Expert Witness	Delta Airlines/Comair
2009-2010	Consultant/Expert Witness	Global Ground Support
2009-	Consultant	Boston Celtics
2010-2011	Consultant	Minnesota Timberwolves
2010-	Consultant/Expert Witness	Bombardier Inc.
2011	Consultant/Expert Witness	Celadon Trucking Services, Inc.
2011-2012	Consultant	Novartis/Gerson Lehman Group
2012	Consultant	Boston Bruins
2013	Consultant	Synchrony Healthcare Communications/Teva Pharmaceutical Industries Ltd.
2013	Consultant	Citgo and Valero
2013-2014	Consultant/Expert Witness	Michael Jackson's mother and children
2013-	Consultant	Boston Red Sox
2013-	Consultant	United Parcel Service
2013-	Consultant/Expert Witness	Purdue Pharma L.P.

Major Administrative Leadership Positions

Local

1976-1981	Project Director, Laboratory of Human Chronophysiology,	Department of Neurology, Montefiore Hospital
1983-1989	Director, Neuroendocrinology Laboratory	Brigham and Women's Hospital
1990-2001	Director, Laboratory for Circadian and Sleep Disorders Medicine	Endocrine Division, Department of Medicine, Brigham and Women's Hospital
1994-2001	Chief, Circadian, Neuroendocrine and Sleep Disorders Section	Endocrine Division, Department of Medicine, Brigham and Women's Hospital
1999-2004	Co-Director, Division of Sleep Medicine	Harvard Medical School
2001-2014	Chief, Division of Sleep Medicine	Department of Medicine, Brigham and Women's Hospital

2004- 2014-	Director, Division of Sleep Medicine Chief, Division of Sleep and Circadian Disorders	Harvard Medical School Departments of Medicine and Neurology, Brigham and Women's Hospital
----------------	---------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------

National and International

1997-2008	Team Leader, Human Performance Factors, Sleep and Chronobiology Team	National Space Biomedical Research Institute (NSBRI), Houston, Texas
-----------	-------------------------------------------------------------------------	-------------------------------------------------------------------------

Committee Service

Local

1981-1988	Working Group on Health Promotion & Disease Prevention	Division of Health Policy, Harvard University Role: Executive Officer
1983-	Adams House Senior Common Room	Harvard College Role: Associate
1986-1989	Study Group on AIDS and Public Policy	Division of Health Policy Research and Education, Harvard University Role: Chairman
1989-1996	1986-1989 Graduate Medical Education Committee	Brigham and Women's Hospital Member
1993-1996	Long-range Planning Committee	Endocrine Division, Brigham and Women's Hospital Role: Member
1994	1993-1994 1995-1996 Computer Committee	Endocrine Division, Brigham and Women's Hospital Role: Chairman
1994-1996	Ad-hoc Faculty Search Committee	Endocrine Division, Department of Medicine, Harvard Medical School Role: Chairman
1996-	Sleep Grand Rounds Organizing Committee	Division of Sleep Medicine, Brigham and Women's Hospital Role: Member
1997-	Clinical Investigation Committee	Research Council, Brigham and Women's Hospital Role: Member
1998-	Faculty Executive Committee	Division of Sleep Medicine, Harvard Medical School Role: Co-Chair
1998-	Education and Training Committee, Sleep, Circadian and Respiratory Neurobiology Training Program	Brigham and Women's Hospital Role: Chairman
1999-2000, 2002	Ad Hoc Committee of Evaluators for Professorial Appointment	Harvard Medical School Role: Member
2000-	Advisory Committee	John A. Hartford Foundation Center for Excellence in Geriatric Medicine, Division

		on Aging, Harvard Medical School Role: Member
2001-	Harvard Work Hours, Sleep and Safety Study Group	Division of Sleep Medicine, Harvard Medical School Role: Organizer
2001-	Executive Committee	Department of Medicine, Brigham and Women's Hospital Role: Member
2001-	Center for Clinical Investigation	Brigham and Women's Hospital Role: Member
2002-	Clinical Research Liaison Committee	Brigham and Women's Hospital Role: Member
2002-	General Clinical Research Center Steering Committee	Brigham and Women's Hospital Role: Member
2002-2003	Task Force on Graduate Medical Education	Partners HealthCare System Role: Member
2004	Dry Space Subcommittee, Executive Committee on Space (ECOS)	Brigham and Women's Hospital Role: Member
2006-	Ad Hoc Search Committee for the Peter C. Farrell Professor of Sleep Medicine	Harvard Medical School Role: Chair
2007-	Ad Hoc Search Committee for the Gerald E. McGinnis Professor of Sleep Medicine	Harvard Medical School Role: Chair
2007-	Ad Hoc Search Committee for a Professor of Medicine to serve as Director of the Sleep and Health Education Programs	Harvard Medical School Role: Chair
2007-	Division of Sleep Medicine Fellows Selection Committee	Brigham and Women's Hospital Role: Co-Chair
Regional		
1985-1986	Symposium on Health Promotion in the Workplace	Kellogg Foundation, Boston, MA Role: Co-chairman
2008	Discovery Panel	NASA Future Forums, Museum of Science, Boston, MA Role: Panelist
2008	Fatigue Management II: Technological and Pharmacological Approaches, Future Directions in Fatigue and Safety Research	Liberty Mutual, Hopkinton, MA Role: Working Group Member
2008	Massachusetts Special Commission on Drowsy Driving	Boston, MA Role: Special Consultant
2008-2009	Expert Panel on Obstetrics, Staffing and Communication Task Group	Betsy Lehman Center for Patient Safety, Boston, MA Role: Consultant
National and International		
1981-1982	Research Agenda for Health and Behavior	National Academy of Sciences (NAS) Institute of Medicine (IOM), Washington, DC Role: Task Force Member
1982-1983	Clinical Psychobiology Branch	National Institute of Mental Health (NIMH), Bethesda, MD

1983	Ad Hoc Advisory Group	Role: Consultant Institute of Chronobiology, New York Hospital, Cornell Medical School, White Plains, NY
1982-1984	The United States Olympic Committee	Role: Member Sports Medicine Division, Colorado Springs, CO
1984	Ad Hoc Subcommittee on Evaluation of Endocrine Studies in Space, Committee on Space Biology and Medicine	Role: Consultant National Research Council, National Academy of Sciences, Washington, DC
1989-1990	Research Briefing Panel on Basic Sleep Research	Role: Member Division of Health Science Policy, Institute of Medicine, NAS, Washington, DC
1989-1990	1989-1990 Scientific Review Branch	Role: Member National Institute of Neurological and Communicative Disorders and Stroke, NIH, Bethesda, MD
1989	Board of Scientific Counselors	Role: Advisory Consultant ADAMHA, National Institute of Mental Health (NIMH), Bethesda, MD
1989	General Clinical Research Center Site Visit Advisory Review Panel	Role: Ad hoc consultant Division of Research Resources, National Institutes of Health, Bethesda, MD
1989-1990	Planning Committee, Consensus Development Conference on Sleep Disorders in Older People	Role: Member National Institute on Aging and the Office of Medical Applications of Research, NIH, Bethesda, MD
1989-1991	Panel on Workload Transition, Committee on Behavioral and Social Sciences and Education	Role: Member National Research Council, National Academy of Sciences, Washington DC
1989-1991	Advisory Panel, New Developments in Neuroscience, "Biological Rhythms: Implications for the Worker"	Role: Member Office of Technology Assessment, United States Congress, Washington DC
1990-1991	Advisory Panel, Preflight Circadian Shifting of Shuttle Flight Crews, Space and Life Sciences Directorate	Role: Member National Aeronautics and Space Administration (NASA), Johnson Space Center (JSC), Houston, TX
1990	Biological Rhythms Task Force	Role: Member Mental Health Research Network, John D. and Catherine T. MacArthur Foundation, Chicago, IL
1990	Merit Award Advisory Review Panel	Role: Member National Institute on Aging (NIA), National Institutes of Health (NIH), Bethesda MD
1991	Future Approaches to the Basic Neurobiology of Sleep	Role: Member National Commission on Sleep Disorders Research, Bethesda MD
1991-	External Advisory Committee	Role: Workshop Panelist University of Virginia National Science and Technology Center, National Science

		Foundation Role: Member
1991	Committee for External Review of Sleep Research Center and Clinic	Department of Psychiatry, Stanford University, Stanford, CA Role: Chairman
1992	Neurolab Space Shuttle Research Planning Conference	Division of Basic Brain and Behavioral Sciences, National Institute of Mental Health/Life Sciences Division, NASA, Houston TX Role: Consultant
1992	Program Project Site Visit Review Panel	Scientific Review Office, National Institute on Aging, NIH, Bethesda MD Role: Chairman
1994	Operations Center	Nuclear Regulatory Commission (NRC), Washington, DC Role: Consultant
1994-	Advisory Committee	Night Operations and Human Chronobiology, Life and Environmental Sciences Division, Air Force Office of Scientific Research (AFOSR) Role: Member
1994	Focus Group	Neural Basis of Psychopathology, Neuroscience and Behavioral Science Division, NIMH Role: Member
1994	Work Hours, Sleepiness and Accidents Consensus Conference	National Institute for Psychosocial Factors and Health, Department of Clinical Neuroscience, Karolinska Institute, Stockholm Role: Panel Member
1994-	External Advisory Committee	General Clinical Research Center, University of Virginia, Charlottesville, VA Role: Member
1995	External Advisory Panel on "The Future of Sleep Research at NIMH"	NIMH Role: Member
1996	Workshop on Melatonin and Sleep	Neurobiology of Aging Branch, NIA Role: Panel Member
1996-1997	Advisory Group Spaceflight and Aging	Biology of Aging Program, NIA Role: Member
1996	Integrative, Regulatory and Behavioral Neurosciences Working Group	Neuroscience Integration Project, Division of Research Grants, NIH Role: Member
1997	Systems Physiology Workshop, Committee on Space Biology and Medicine	National Research Council, NAS Role: Panelist
1998-	Human Factors Research Team, Workshop to Develop Critical Path Roadmap	Johnson Space Center Human Space and Life Sciences Program Office and National Space Biomedical Research Institute, Houston, TX Role: Chair
2000-	Scientific Advisory Board	Alertness Management Initiative, Air

		Transport Association, Washington, DC Role: Member
2001	Scientific Advisory Panel, Mars Exploration Rover Surface Operations Human Factors Workshop	NASA Jet Propulsion Laboratory Role: Member
2000-2002	Ad hoc reviewer	Center for Scientific Review and National Center for Research Resources, NIH Role: Ad hoc reviewer
2003	External Advisory (Red Team II) Panel	International Space Station and Shuttle Utilization Reinvention (SSUR) Team, NASA Role: Member
2003	Workshop on Effects of Sleep Disorders and Sleep Restriction on Adherence to Prevention and Treatment Regimens	National Center on Sleep Disorders Research, National Heart, Lung and Blood Institute (NHLBI), NIH Role: Participant and Invited Speaker
2004	Workshop on Shift Work Sleep Disorder	National Sleep Foundation Workshop on Shift Work Sleep Disorder, Washington, DC Role: Invited Speaker and Session Chair
2005	Human System Integration Workshop	Behavioral Health and Performance Directorate, NASA, Houston, TX Role: Participant
2005	Committee on Sleep Medicine and Research	Institute of Medicine, National Academy of Sciences Role: Expert Consultant
2007	Medical Panel on Sleep Apnea and Commercial Truck Driving	Federal Motor Carrier Safety Administration (FMCSA), US Department of Transportation (DOT) Role: Panelist
2007	Committee on Optimizing Graduate Medical Trainee (Resident) Hours and Work Schedules to Improve Patient Safety	Institute of Medicine, National Academy of Sciences Role: Expert Consultant
2008	Fatigued Driving Committee	National Highway Traffic Safety Administration's (NHTSA) Office of Behavioral Safety Research, Bethesda, MD Role: Panelist
2008-	Steering Committee	Academic Alliance for Sleep Research Role: Member
2008-2011	Sleep Disorders Research Advisory Board	NHLBI, NIH Role: Member (2008-2011), Chair (2010-2011)
2008	Consortium on Sleep Research	National Clinical and Translational Science Awards (NIH-CTSA) Role: HMS Representative
2008-	External Advisory Committee	Wisconsin Sleep Center, University of Wisconsin, Madison, WI Role: Member
2009	External Advisory Committee	Case Western Reserve University, Cleveland, OH

2009	Sleep Research Network	Role: Member
2012-	Medical Advisory Board	Role: Member (2009-), Chair Elect (2013), Chair 2013-2014
2014	External Review Committee	Circadian Sleep Disorders Network Role: Member
2014-2015	Panel Study on Truck Safety, Hours of Service, and Fatigue	Stanford Center for Sleep Sciences and Medicine, Stanford CA
2014	Selection Committee for Editor-in-Chief	National Academy of Sciences (NAS), Washington, DC
2014	Drowsy Driving Forum	Role: Task Force Member Sleep Health journal, National Sleep Foundation
2015-	Scientific Advisory Board	Role: Member National Transportation Safety Board, Washington DC
2015-	Sleep Disorders Council	Role: Panelist Institute of Digital Media and Child Development, Stony Brook NY
2016-	Global Council on Brain Health	Role: Member National Sleep Foundation, Arlington VA
2016-	Scientific Advisory Committee for the Stanford Sleep Study	Role: Lead, Circadian Rhythm Disorders AARP in Collaboration with Age UK
2017-	Panel on Human Factors Science	Role: Issue Matter Expert on Sleep Klarman Family Foundation, Boston MA
		Role: Member National Academies of Sciences, Engineering, and Medicine, Washington DC
		Role: Panel Member

Professional Societies

1975-	American Association for the Advancement of Science	
	1981	Symposium Co-Chairman
	1986,1989	Symposium Speaker
1975-	International Society for Chronobiology	
1976-	Sleep Research Society	
	1980, 1981, 1985	Satellite Symposium Chairman and Co-Chairman
	1980	Chairman, Biological Rhythm Nomenclature Committee
	1982-5, 1988, 1990-5, 1997-8	Session Chairman
	1995-1999	Section Head, Circadian Rhythms Section
	1996-1999	Member, Board of Directors
	1996-1999	Member, Nominating Committee
	2003-2004	Chair, Research Committee
	2004-2005	President-Elect
	2004-2007	Chair, Presidential Task Force on Sleep and Public Policy
	2004-2007	Member, Executive Committee and Board

	2004-2007	of Directors
	2005-2006	Member, Board of Directors
	2006-2007	President
		President, Sleep Research Society
		Foundation
1979-	Society for Neuroscience	
	1986, 1999, 2007	Symposium speaker
1979-	American Physiological Society	
	1995	Workshop participant
1982-1988	Clinical Sleep Society	
	1987-1988	Fellow
1985-	American Sleep Disorders Association	
	1985-1989	Member, Nosology Committee
	1986-1990	Chairman, Subcommittee on Classification of Sleep Scheduling Disorders
	1988-	Fellow
	1989-1993	Member, Committee for Government Affairs and Public Policy
1985-	Association of Professional Sleep Societies	
	1986	Course Developer
	1986-1987	Member, Committee on Catastrophes, Sleep and Public Policy
	1987-8, 1993, 1995, 2000	Invited Symposium Speaker
	1988-1990	Chairman, Ad Hoc Government Advisory Steering Committee on Safety, Performance and Sleep
	1990, 1996	Symposium Chairman
	1992-3, 1998, 2002-3	Course Speaker
	1994	Workshop Organizer
	1997	Annual Meeting Keynote Speaker
	1997-1999	Member, Annual Meeting Program Committee
	2004-2007	Member, Board of Directors
1986-	Academy of Behavioral Medicine Research	Fellow
1988-1990	American Federation for Clinical Research	
1988-	Society for Research on Biological Rhythms	
	1988, 1992, 1994, 1998	Invited Symposium Speaker
	1993-1994	Member, Nominating Committee
	1996	Session Chairman
	2002	Keynote Speaker Annual Meeting
1989-1990	Northeastern Sleep Society	Chairman and Host Annual Meeting
1990-1995	National Sleep Foundation	Member, Board of Trustees
1990-	American Society for Clinical Investigation	Fellow
1995	American Physiological Society	Rapporteur, Study Group on Clocks and Human Biology
1997-	Association of American Physicians	
1998-1999,	World Federation of Sleep Research Societies	
2004-2007	1998-1999	Member, Scientific Congress Committee,

	2004-2007	Third International Congress Member, Board of Directors
1998-1999	Association for Patient-Oriented Research	Member, Board of Trustees
2002	American Society for Photobiology	Symposium Co-Chair
2007-	Royal College of Physicians, London, U.K.	Honorary Fellow (F.R.C.P.)
2008-	American Clinical and Climatological Association	Elected as member
2014-2015	National Sleep Foundation	Chair, Board of Directors Chair, SAC Subcommittee: Circadian Rhythm Disorders Member, Education Committee
2018-	National Sleep Foundation	Chair, Sleep Timing and Variability Consensus Panel (STVCP)

Editorial Activities

Ad hoc Reviewer

Sleep
Proceedings of the National Academy of Sciences
Nature and Science of Sleep
Nature

Other Editorial Roles

1979-1980	Guest Editor	Sleep
1991-1997	Member, Editorial Board	Sleep
1995-1999	Member, Editorial Advisory Board	Journal of Biological Rhythms
1997	Guest Editor	Journal of Biological Rhythms
1997-2000	Member, Editorial Board	Sleep Research Online
1997-2000	Member, Editorial Board	American Journal of Medicine
2002-	Member, Editorial Board	Sleep
2009	Member, Editorial Board	Nature and Science of Sleep
2011	Member, Editorial Board	Sleep and Biological Rhythms
2012	Member, Advisory Board	Sleep and Biological Rhythms
2013-	Member, Editorial Advisory Board	Journal of Biological Rhythms
2014-	Member, Editorial Board	Sleep Health

Honors and Prizes

1970	Winner (National Top 40)	Westinghouse Science Talent Search
1970-1971	Honorary Freshman Scholarship	Harvard College
1972-1974	Harvard College Scholarship	Harvard College
1974-1975	Research Fellowship	Stanford Medical Scientist Training Program
1975-1981	Pre-doctoral Fellowship	NIH Medical Scientist Training Program (USPHS)
1981-1983	Josiah Macy Fellowship	
1982	Harvard Medical Society Lecture	

1983-1984	Christopher Walker Fellowship	
1987-1989	Sandoz Scholar in Medicine	
1988	Elliot David Weitzman Lecture	Cornell Medical College, Westchester, NY
1989	Distinguished Lecture	Massachusetts Institute of Technology Lincoln Lab
1990	Election as Fellow	American Society for Clinical Investigation
1991	Robert R.J. Hilker, M.D. Lectureship Award in Occupational Medicine	
1992	Keynote Lecture	International Brain Research Organization/Swiss chapter, Zurich
1992	Visiting Professor	Sinai Hospital of Baltimore/Johns Hopkins University School of Medicine, Baltimore, Maryland
1996	Plenary Lecture	Japanese Society for Sleep Research, Sapporo, Japan
1997	Keynote Speaker	Association of Professional Sleep Societies Annual Meeting, San Francisco, CA
1997	Election as Member	Association of American Physicians
1999	Phi Beta Kappa	Harvard College
2000	Keynote Speaker	Northeast Sleep Society
2001	“Aschoff’s Rule” International Award in Circadian Biology	
2002	E.H. Ahrens, Jr., Lecture Award	Association for Patient Oriented Research, Baltimore
2002	Keynote Speaker	Society for Research on Biological Rhythms, Amelia Island, FL
2002	William C. Dement Academic Achievement Award	American Academy of Sleep Medicine
2003	Keynote Speaker	Annual Patient Safety Research Conference, Agency for Healthcare Research and Quality, Washington, DC
2003	Plenary Speaker	World Congress of Chronobiology, Sapporo, Japan
2003	Distinguished Lecturer	Spaulding Rehabilitation Hospital, Boston, MA
2004	Plenary Speaker	Second International Forum on Sleep Disorders, Sanofi Aventis, Paris

2005	Keynote Speaker	Annual Meeting, Committee of Interns & Residents, Washington, DC	
2005	Gordon Wilson Lecturer	American Clinical and Climatological Association, Santa Barbara, CA	
2005	Plenary Address	X International Congress, Brazilian Sleep Research Society, Curitiba	
2005	Keynote Speaker	New Zealand Resident Doctors Association Professional Conference on Safer Working Hours in Medicine, Auckland, New Zealand	
2005	Visiting Professor of Anesthesia and Pfizer Lecturer in Sleep	University of Michigan Health Systems, Ann Arbor, MI	
2006	Distinguished Leaders in Medicine Lecturer	Faculty of Medicine, Dalhousie University, Halifax, Nova Scotia	
2006	Beckwith Family Lecturer and Beckwith Family Visiting Professor of Medicine	Brown University, Providence, Rhode Island	
2006	Healthy Sleep Community Award	National Sleep Foundation, Washington, DC	Harvard Work Hours, Health and Safety Group
2006	Director's Award for Scientific Leadership in Occupational Safety and Health (1 in nation)	National Institute for Occupational Safety and Health, Washington, DC	
2007	10th Annual J.Gerald Reves Duke Heart Center Lecture	Duke Medical Center, NC	
2007	Dorcas Cummings Memorial Lecture	72 nd Symposium: Clocks and Rhythms, Cold Spring Harbor Laboratory, NY	
2007	Lecturer	NIH Director's Wednesday Afternoon Lecture Series, Bethesda MD	
2007	Inducted to Honorary Fellowship (F.R.C.P.)	Royal College of Physicians, London, U.K.	
2007	Plenary Address	5 th Congress of the World Federation of Sleep Research and Sleep Medicine Societies, Worldsleee07, Cairns, Australia	
2007	Election as Corresponding Member	International Academy of Astronautics	
2008	Elected as Member	American Clinical and Climatological Association	
2008	Lifetime Achievement	National Sleep Foundation	

2008	Award Lord Adrian Gold Medal	Royal Society of Medicine, London, U.K.
2008	Distinguished Scientist Award	Sleep Research Society
2010	Keynote Speaker	Medical Scientist Training Program, Duke University Medical School
2010	Mark O. Hatfield Public Policy Award	American Academy of Sleep Medicine
2010	Harriet Hardy Award	New England College of Occupational and Environmental Medicine (NECOEM)
2010	23 rd Annual Catherine N. Stratton Aging Successfully Lecture	Massachusetts Institute of Technology
2010	Election as Member	Institute of Medicine of the National Academies
2010	Election as Full Member	International Academy of Astronautics
2011	Keynote Speaker	North East Sleep Society Annual Meeting
2011	Mary A. Carskadon Outstanding Educator Award	Sleep Research Society
2011	Keynote Speaker	World Association of Sleep Medicine
2012	Keynote Speaker	Harvard School of Public Health Symposium "Sleep and Shift Work: Optimizing Productivity and Health Management in the 24/7 Global Economy"
2014	Honorary Member Keynote Lecture	American Academy of Dental Sleep Medicine
2014	Golden Mind-Body Medicine Lecture	University of Buffalo
2014	JSC Director's Innovation Award	NASA, Johnson Space Center
2015	Elected Inaugural Fellow	American Physiological Society
2016	Keynote Speaker	Maryland Sleep Society Seventh Annual Scientific Meeting
2017	Michael S. Aldrich Commemorative Lectureship	University of Michigan
2018	Leonore Annenberg Lecturer	Annenberg Center for Health Sciences at Eisenhower Medical Center
2018	Keynote Lecture	Zurich Sleep Medicine Symposium 2018 / International

		Symposium of the CRPP Sleep & Health
2018	Pittendrigh-Aschoff Keynote Lecture	Society for Research on Biological Rhythms (SRBR)
2018	Green Cross for Safety Innovation Award for Brigham Health Sleep Matters Initiative	National Safety Council
2019	Peter C. Farrell Prize in Sleep Medicine	Harvard Medical School Division of Sleep Medicine
2019	J.E. Wallace Sterling Lifetime Achievement Award in Medicine	Stanford University School of Medicine Alumni Association
2019	Bernese Sleep Award	University of Bern, Bern, Switzerland
2022	Tom Roth Lecture of Excellence	SLEEP 2022, Charlotte, North Carolina

Report of Funded and Unfunded Projects

Funding Information

Past

1977-1979	Psychoneuroendocrine rhythms, aging and sleep disorders NIH R01 (National Institute on Aging) Project Director
1977-1979	Psychoneuroendocrine rhythms and sleep disorders NIH P01 (National Institute of Mental Health) Project Director
1979-1981	Psychoneuroendocrine rhythms, aging and sleep disorders NIH R01 (National Institute on Aging) Co-I: Project Director
1979-1981	Psychoneuroendocrine rhythms and sleep disorders NIH P01 (National Institute of Mental Health) Co-I: Project Director
1981-1983	Development of method to assess endogenous circadian phase/amplitude Peter Bent Brigham Hospital BRSB Grant PI
1983-1985	Disrupted sleep in the elderly: circadian etiology NIH R01 (National Institute on Aging) PI
1983-1984	Continuous vigilance simulator with real-time neuroendocrine correlation Air Force Office of Scientific Research; Department of Defense University Research Instrumentation Award PI
1983-1984	A chronobiotic study of quazepam Schering Plough Pharmaceutical Corporation PI
1983-1984	Circadian rhythms and athletic performance United States Olympic Committee

Subcontract PI

1984-1986 The workplace: an opportunity for health promotion
W.K. Kellogg Foundation
Executive Officer

1985-1990 Disrupted sleep in the elderly: circadian etiology
NIH R01 (National Institute on Aging) competitive renewal for grant years 3-7
PI

1985-1986 Development of a method to assess the period and amplitude of the endogenous circadian oscillator
Brigham and Women's Hospital BRSO Grant
PI

1985-1988 Reproductive function in women: circadian interaction
NIH R01 (NICHD)
PI

1986-1987 Brigham and Women's Hospital BRSO Grant
PI

1987-1988 Occupational reproductive hazards - rotating shiftwork
March of Dimes Birth Defect Foundation
Co-I

1988-1989 Phase response curve to light in human subjects
Brigham and Women's Hospital BRSO Grant
PI

1989-1990 Development program for resetting the human circadian pacemaker
National Aeronautics & Space Administration
PI

1989-1994 Treatment of circadian sleep disorders with bright light
NIH R01 (National Institute of Mental Health)
PI

1990-1991 Comparative effects of pravastatin and lovastatin on nighttime sleep and daytime performance
Bristol Myers-Squibb Company
Investigator

1990-1997 Disrupted sleep in the elderly: Response to phototherapy
NIH R01 (National Institute on Aging) competitive renewal for grant years 8-12
PI

1991-1993 Pre-launch adaptation of extended duration orbiter crew members to 12-hr shift operations:
Clinical trial with and without bright light exposure
National Aeronautics & Space Administration
PI

1991-1998 Sleep, aging and circadian rhythm disorders
NIH P01 (National Institute on Aging)
PI

1994-1995 Feasibility of evaluating effects of exogenous melatonin, delivered by transdermal therapeutic systems in chronic insomnia in the elderly
Alza Corporation
PI

1994 Pre-Definition: Clinical trial of melatonin as hypnotic for Neurolab crew
National Aeronautics & Space Administration
PI

1994 Antarctic research collaborative on sleep, concentration and fatigue

National Aeronautics & Space Administration
PI

1994-1995 Definition Phase: "Clinical trial of melatonin as hypnotic for Neurolab crew"
National Aeronautics & Space Administration
PI

1994-1997 Pre-launch adaptation of orbiter crew members to earlier shifts following exposure to a single bright light episode
National Aeronautics & Space Administration
PI

1994-1997 Effect of exercise on endogenous circadian period, sleep and performance
Air Force Office of Scientific Research
PI

1994-2001 Bright light treatment of shift rotation insomnia
NIH R01 (National Heart, Lung & Blood Institute)
PI

1995-1999 Clinical trial of melatonin as hypnotic for Neurolab crew (ground-based study program in support of Neurolab mission)
NIH U01 (National Institute on Aging)
PI

1995-2000 Clinical trial of the effect of caffeine on the circadian and homeostatic interaction underlying deterioration of neurobehavioral functioning with sleep deprivation
Air Force Office of Scientific Research; Partnership in Research Excellence & Transition Subcontract PI

1995-2000 Flight-Based Protocol Aboard Neurolab Space Shuttle: Clinical trial of melatonin as hypnotic for Neurolab crew
National Aeronautics & Space Administration
PI

1995-2001 Treatment of circadian sleep disorders with bright light
NIH R01 (National Institute of Mental Health) competitive renewal for grant years 6-10
PI

1996 Double-blind, placebo-controlled study to determine the effect of MK-0677 on sleep in elderly patients with sleep disturbances
Merck Research Laboratories
PI

1996-1997 A double-blind, placebo-controlled study to determine the effect of L-754,030 on light-induced melatonin suppression in healthy young men
Merck Research Laboratories
PI

1997-1999 Clinical trial of the effect of exercise on resetting of the endogenous circadian pacemaker
Air Force Office of Scientific Research
PI

1997-2000 Human Performance Factors, Sleep and Chronobiology Team
National Space Biomedical Research Institute
Team Leader

1997-2000 Circadian entrainment, sleep-wake regulation and neurobehavioral performance during extended duration space flight
National Space Biomedical Research Institute
PI

1997-2001 Evaluation of intermittent bright light exposure as a spaceflight countermeasure
National Aeronautics & Space Administration

1998-2003 PI
Training in sleep, circadian and respiratory neurobiology
NIH T32 (National Heart, Lung & Blood Institute)

1998-2005 PI
Disrupted sleep in the elderly: Response to phototherapy
NIH R01 (National Institute on Aging) competitive renewal for grant years 13-17
PI until 2001; Investigator thereafter

1999-2000 PI
Polysomnographic Study
Merck Research Laboratories

1999-2000 PI
Multi-site investigation of provigil (modafinil) treatment for performance impairing
sleepiness associated with night shift work
Cephalon Laboratories

1999-2000 PI
Astronaut activity in space flight
National Aeronautics & Space Administration

1999-2002 PI
Circadian adaptation to night work in older people
NIH R01 (National Heart, Lung & Blood Institute - National Occupational Research
Initiative)

1999-2006 PI
Sleep, aging and circadian rhythm disorders
NIH P01 (National Institute on Aging) competitive renewal for grant years 6-10

2000 PI
Clinical trial of the effect of exercise on resetting of the endogenous circadian pacemaker
Air Force Office of Scientific Research

2000-2004 PI
Circadian entrainment, sleep-wake regulation and performance during space flight
National Space Biomedical Research Institute competitive renewal for grant years 4-6

2000-2004 PI
Human Performance Factors, Sleep and Chronobiology Team
National Space Biomedical Research Institute competitive renewal for grant years 4-6
Team Leader

2000-2005 PI
Clinical trial of the effect of modafinil on the circadian and homeostatic interaction
underlying the deterioration of neurobehavioral functioning during jet lag and sleep
deprivation
Air Force Office of Scientific Research Partnership in Research Excellence & Transition
competitive renewal for grant years 6-10
Subcontract PI

2001-2002 PI
A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the
Safety and Impact on Quality of Life of 12 Weeks of PROVIGIL® (Modafinil) Therapy at
Dosages of 200 and 300 mg Once Daily as Treatment for Adults With Excessive
Sleepiness Associated With Shift Work Sleep Disorder, Followed by a 12-Month Open-
Label Extension Period
Cephalon, Inc.

2001-2003 PI
A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the
Efficacy and Safety of 12 Weeks of PROVIGIL® (Modafinil) Therapy at a Dose of 200
mg as Treatment for Adults With Excessive Sleepiness Associated With Chronic Shift
Work Sleep Disorder, Followed by a 12-Month Open-Label Extension Period

Cephalon, Inc.
PI

2001-2004 Effects of extended work hours on ICU patient safety
DHHS R01 (Agency for Healthcare Research and Quality)
PI

2001-2005 After-effects of entrainment on human circadian period
NIH R01 (National Institute of Neurological Disorders and Stroke)
PI

2001-2006 Treatment of circadian sleep disorders with bright light
NIH R01 (National Institute of Mental Health) competitive renewal for grant years 11-15
PI

2001-2006 Effects of Extended Work Hours on Intern Health & Safety
CDC R01 (National Institute of Occupational Safety and Health)
PI

2001-2007 Circadian adaptation to non-24-hour sleep-wake schedules
NIH R01 (National Institute of Neurological Disorders and Stroke)
PI

2001-2008 Bright light treatment of shift rotation insomnia
NIH R01 (National Heart, Lung & Blood Institute) competitive renewal for grant years 6-9
PI

2002-2003 Pfizer, Inc.
PI

2004-2005 A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Safety of 12 Weeks of R-Modafinil Therapy at a Dose of 200 mg as Treatment for Adults With Excessive Sleepiness Associated With Chronic Shift Work Sleep Disorder, Followed by a 12-Month Open-Label Extension Period
Cephalon, Inc.
PI

2004-2008 Human Performance Factors, Sleep and Chronobiology Team
National Space Biomedical Research Institute competitive renewal for grant years 7-10
Team Leader

2004-2008 Circadian entrainment, sleep-wake regulation and performance during space flight
National Space Biomedical Research Institute competitive renewal for grant years 7-10
PI

2004-2008 Sleep Disorders Management, Health and Safety in Police
CDC R01 (National Institute of Occupational Safety and Health)
PI

2004-2009 Adaptation of Circadian Responses to Light Treatment
NIH R01 (National Heart, Lung & Blood Institute)
PI

2005-2006 Optimizing the assessment of circadian and sleep/wake regulatory determinants of human performance through state of the art analysis of electroencephalogram, ocular activity and motor activity
AFOSR (DURIP)
PI

2005-2007 Implementing reduced work hours for all ICU staff to improve patient safety
NIH (Agency for Healthcare Research and Quality)
Investigator

2005-2008 Melatonin supplementation in hypertensive patients with beta blockers
NIH (National Center for Complementary and Alternative Medicine)

- 2005-2009 Co-I
Testing the Effectiveness of a Comprehensive Fatigue Management for the Boston Police Department of Justice (National Institute of Justice)
PI
- 2006-2008 Interaction of chronic sleep restriction and circadian misalignment on sleep and neuron-cognitive performance: developing a new model of sleep homeostasis
AFOSR
PI
- 2007-2008 Translating the science of alertness and performance from laboratory to field: Using state-of-the-art monitoring, imaging, and performance enhancement technologies to improve the alertness and safety of the military and civilian workforce
AFOSR (DURIP)
PI
- 2008 Procedural Complications Associated with Attending Physician Extended-Duration Work Shifts
RxFoundation
Investigator
- 2003-2008 Training in sleep, circadian and respiratory neurobiology
NIH T32 (National Heart, Lung & Blood Institute) 1 T32 HL07901
Competitive renewal for grant years 6-10
PI (\$2,536,335)
THE NHLBI's National Center for Sleep Disorders Research identified the need to train investigators as its highest priority. The Harvard Medical School Division of Sleep Medicine Program for Training in Sleep, Circadian and Respiratory Neurobiology, based at the Brigham and Women's Hospital, is designed to address this need. This program provides structured, comprehensive research training to prepare outstanding individuals for academic positions in the broad field of sleep science and sleep medicine.
- 2004-2009 Mechanism Underlying the Effects of Blue Light in Humans
NIH (National Center for Complementary and Alternative Medicine) R01 AT002129 (PI: Lockley)
Investigator (PI until 2005)
The goal of this proposal is to investigate the effects of different colors of light on human physiology, and in particular, test the claims that specific colors of light preferentially stimulate neurobiological, physiological and endocrinological systems. Using classical photobiological techniques, we will construct action spectra for the effects of different colors of light on a range of non-image forming responses in humans.
- 2005-2009 Disrupted sleep in the elderly: Response to phototherapy
NIH R01 (National Institute on Aging) R01 AG06072
competitive renewal for grant years 18-22
Investigator
The goals of this grant are to test an evening light treatment regimen designed to achieve an optimum phase relationship between sleep and the output of the circadian timing system in older people in order to improve objective and subjective sleep quality.
- 2008-2009 Effects of Acute Sleep Deprivation on Visual attention and Gaze Control
National Space Biomedical Research Institute HPF00003
PI (\$79,233)
The fundamental objective of this study is to identify the determinants (behavioral, visuomotor, microsleep-induced) of performance lapses (during the psychomotor vigilance task, PVT) under acute sleep deprivation, and to quantify whether those determinants change with circadian phase and/or homeostatic sleep pressure.

- 2005-2010 Photic and nonphotic input to the human circadian system
NIH (National Institute of Neurological Disorders and Stroke) R01 NS040982 (PI:
Lockley)
Competitive renewal for grant years 5-8
Investigator
We are testing the hypotheses that: Study 1) exposure to monochromatic light of 460 nm
for 6.5 h in the early biological night will cause a 3 h delay in circadian phase and a 85%
suppression in pineal melatonin production whereas exposure to the same photon density
of 555 nm will have no effect on circadian phase or melatonin suppression (compared to
1.7 h delay and 37% suppression in sighted subjects); Study 2) Exposure to a non-photic
schedule advanced by 0.4 h relative to baseline intrinsic period will cause a phase advance
of period of 0.4 h.
- 2007-2010 Evaluation of the potential for translation to practice of a sleep disorders management
program for police
CDC (National Institute of Occupational Safety and Health) R01OH009403
PI (\$150,847)
We propose (1) to evaluate the potential for translation of the Operation Healthy Sleep
program through the RE-AIM (Reach, Effectiveness, Adoption, Implementation, and
Maintenance) framework to health behavior interventions; (2) to evaluate the cost,
feasibility and sustainability of the Operation Health Sleep program through cost-benefit
analysis; and (3) to evaluate the external validity of the Operation Healthy Sleep program
by comparing health, safety and productivity outcomes obtained from the primary police
sample (Massachusetts State Police) with those obtained from a parallel program in the
Philadelphia Police Department and a nationwide sample of more than 4000 police officers
participating in a web-based survey.
- 2009-2010 Operational evaluation of a photic countermeasure to improve alertness, performance, and
mood during nightshift work on a 105-day simulated human exploration mission
National Space Biomedical Research Institute HFP00002
PI (\$221,235)
The purpose of this study is to validate the efficacy and operational feasibility of a photic
countermeasure to facilitate adaptation to the 24.65-h Martian sol, thereby improving sleep
and performance. We propose to address the following hypotheses: (1) afternoon and
evening exposure to moderately bright light will establish a normal entrained circadian
phase in subjects living on a 24.65-hour day; (2) afternoon and evening exposure to
moderately bright light will result in improved sleep, enhanced alertness and mood; (3)
afternoon and evening exposure to moderately bright light will maintain the
neurobehavioral performance of crewmembers living on the Martian sol.
- 2009-2010 Operational evaluation of a photic countermeasure to improve alertness, performance, and
mood during nightshift work on a 105-day simulated human exploration mission
National Space Biomedical Research Institute HFP00002
PI (\$221,235)
The purpose of this study is to validate the efficacy and operational feasibility of a photic
countermeasure to facilitate adaptation to the 24.65-h Martian sol, thereby improving sleep
and performance. We propose to address the following hypotheses: (1) afternoon and
evening exposure to moderately bright light will establish a normal entrained circadian
phase in subjects living on a 24.65-hour day; (2) afternoon and evening exposure to
moderately bright light will result in improved sleep, enhanced alertness and mood; (3)
afternoon and evening exposure to moderately bright light will maintain the
neurobehavioral performance of crewmembers living on the Martian sol.
- 2006-2011 Treatment of circadian sleep disorders with bright light

- NIH (National Institute of Mental Health) R01 MH045130
Competitive renewal for grant years 16-20
PI (\$1,139,040)
In this study we would systematically assess the circadian phase-shifting, melatonin suppressing, and alertness-enhancing response to a monochromatic light stimulus, using a wavelength (460 nm) that has been shown to maximally stimulate the circadian system.
- 2008-2011 A Comprehensive Firefighter Fatigue Management Program 'Operation Healthy Sleep'
Department of Homeland Security FEMA EMW-2007-FP-02197
PI (\$793,651)
We propose to use a station-level, randomized experimental design to test the hypotheses that implementation of a Comprehensive Firefighter Fatigue Management Program will: (1) improve the mean total sleep, alertness and cognitive performance of firefighters; (2) improve firefighter safety, as determined by decreased rates of motor vehicle crashes and on-the-job injuries; (3) improve firefighters' performance, as determined by decreased response time; (4) improve firefighters' health, as determined by diagnosis and treatment of sleep disorders, improved general health indices and decreased number of 'sick' days; (5) improve firefighters' and families' job satisfaction and ability to cope with extended work hours.
- 2009-2012 Effects of the circadian clock and light on the production of estrogens
NIH R21ES017112 (PI: Lockley)
Investigator
In the current proposal, we would like to take advantage of remaining urine and plasma samples collected under previous federal funds (NIH/NASA). We have a unique opportunity to study the relationships between light, circadian rhythms, shiftwork and melatonin and estrogen endocrinology from \$1M-worth of prior research conducted under strictly controlled laboratory conditions. These data will allow us to test the specific hypotheses that; i) there are significant 24-hour diurnal and circadian rhythms in plasma estradiol and urinary estrone-3-glucuronide production; and ii) that these rhythms are inversely related to plasma melatonin and urinary 6-sulfatoxymelatonin, respectively; iii) plasma estradiol will be acutely elevated following suppression of plasma melatonin; and iv) that the circadian rhythm of estradiol will phase-shift in parallel with the melatonin rhythm during a simulated shift-work protocol.
- 2004-2011 Adaptation of circadian responses to light treatment (supplement)
NIH R01 HL077453-05
PI (\$787,401)
The primary aim is to study a fundamental property of the circadian pacemaker, which is the ability of photic history to change the efficacy of light stimuli in modulating circadian regulation. The study may reveal a new method to potentiate light therapy in the treatment of circadian rhythm disturbances.
- 2008-2012 Evaluation of Photic Countermeasures for Circadian Entrainment of Neurobehavioral Performance and Sleep-Wake Regulation Before and During Spaceflight
National Space Biomedical Research Institute HFP01601
PI (\$1,428,571)
This project will test the efficacy of exposure to blue-enriched light at a standard intensity for pre-launch and in-flight phase shifting.
- 2009-2012 Interactions of genetics, behavioral sleep loss, circadian rhythms & performance
NIH (National Institute on Aging) SupplementP01 AG09975-S2
PI (\$499,804)
We propose to study 6 healthy individuals with the PER34/4 genotype and 6 with the PER35/5 genotype. The protocol will include a 23-day inpatient stay with 2 weeks of

chronic sleep restriction in a forced desynchrony procedure, which will enable us to investigate both the circadian and wake-dependent contributions to alertness and performance, followed by one 40-hr sleep deprivation, which will enable us to investigate the response to an episode of acute sleep deprivation following chronic sleep restriction. We will record sleep and waking EEG, and test for multiple aspects of cognitive functioning, alertness and mood.

- 2009-2012 National firefighter sleep disorders management program: translation to practice
Department of Homeland Security FEMA TBAEMW-2008-FP-02566
PI (\$787,721)
Work hours, fatigue, performance, health and safety in firefighters; screening for sleep disorders and referral for treatment.
- 2010-2012 A comprehensive review of the work hours, health and safety of Federal Air Marshals
FAMS
PI (\$354,330; NCE)
The goal of this program is to reduce the adverse consequences of fatigue on the Air Marshals' health, safety and performance. The overall goal will be to develop work-hour policies and guidelines, and education and training program and an efficient sleep disorders screening program that can be implemented to improve the health, safety and performance of Federal Air Marshals and thereby improve public safety nationally.
- 2006-2013 Sleep, aging and circadian rhythm disorders
NIH P01 (National Institute on Aging) P01 AG09975
Competitive renewal for grant years 11-15
PI (\$1,056,303; NCE)
This proposal seeks to address that gap in our knowledge by using a well-established laboratory model to study what differences may exist between the sleep efficiency of older and younger subjects under conditions of chronic sleep restriction (ratio 19 hours scheduled wake: 5 hours scheduled sleep), carried out on a forced-desynchrony protocol, and by assessing the recuperative capabilities under conditions of sleep extension following this restriction. A 'metabolic aging' experiment has been included with the goal of understanding the endocrine and cardiovascular consequences of sleep restriction in both young and older subjects.
- 2009-2013 Validation of assessment tests and countermeasures for detecting and mitigating changes in cognitive function during robotics operations
National Space Biomedical Research Institute NBPF02001 (PI: Lockley)
Investigator
We will test the effectiveness of blue-enriched light and/or caffeine as fatigue countermeasures during robotic and cognitive performance. Subjects will be exposed to short-wavelength enriched white light and/or continuous low-dose caffeine administration on the robotics performance days in a randomized, placebo-controlled within-subjects design
- 2008-2013 Training in sleep, circadian and respiratory neurobiology
NIH T32 (National Heart, Lung & Blood Institute) 1 T32 HL07901
Competitive renewal for grant years 11-15
PI
The NHLBI's National Center for Sleep Disorders Research identified the need to train investigators as its highest priority. The Harvard Medical School Division of Sleep Medicine Program for Training in Sleep, Circadian and Respiratory Neurobiology, based at the Brigham and Women's Hospital, is designed to address this need. This program provides structured, comprehensive research training to prepare outstanding individuals for academic positions in the broad field of sleep science and sleep medicine.

- 2007-2014 Desensitization of Circadian Responses to Light
NIH (National Institute of Neurological Disorders and Stroke) R01 NS054277
PI (\$1,000,000; NCE)
The proposed experimental and modeling efforts are to quantify the influences of acute sleep deprivation (short-term homeostatic), chronic sleep restriction (long-term homeostatic), circadian rhythmicity, and their interactions on neurocognitive performance and to develop a new model of sleep homeostasis that can predict the effects of chronic sleep restriction.
- 2009-2014 Efficacy of melatonin treatment in a phase advance model of insomnia
NIH 1R01HL093279
PI (\$1,250,000)
We propose to test the chronobiotic and sleep promoting effects of melatonin in a phase advance model of insomnia: (1.) Test the hypothesis that melatonin administered prior to scheduled sleep will advance circadian phase, with the plasma cortisol rhythm used as the primary phase marker, in a dose-dependent manner when sleep is scheduled to occur 5 hours before habitual sleep time; (2.) Test the hypothesis that melatonin administered prior to scheduled sleep will increase sleep efficiency when sleep is scheduled to occur 5 hours before habitual sleep time.
- 2013-2014 Development of an Algorithm for Identifying Individuals who are Highly Vulnerable vs Highly Resistant to the Effects of Sleep Loss on Performance
DARPA
PI
This project seeks to develop measures to predict individual variability in response to acute and chronic sleep loss. We will analyze existing data from baseline rested performance tests in an attempt to derive measures that can predict subsequent response to acute sleep loss or chronic sleep restriction.
- 2013-2014 Sleep duration required to restore performance during chronic sleep restriction
NIH/NHLBI R01 HL114088 (PI: Klerman)
Investigator
To quantify to what extent the initial level and time course of dissipation of sleep inertia, the level of performance for hours 2-6 after awakening, and the rate of decline in performance with increased wake duration after 6 hours awake depend on the length of the prior sleep episode in addition to sleep:wake ratio and circadian phase.
- 2011-2014 Clinical trial of an intervention to reduce fatigue and improve safety and health in firefighters
FEMA EMW-2010-FP-00521
PI
We propose to conduct a station-level, randomized clinical trial of policies designed to maximize sleep opportunities during current 24-hour shifts to improve alertness, performance, health and safety in firefighters.
- 2010-2014 Evaluation of a photic countermeasure for mission controllers
NASA NNX10AF47G
Co-PI (\$481,181)
We propose to implement a Comprehensive Fatigue Management Program for the flight mission controllers program. The goals of this program are to reduce the adverse consequences of fatigue on the mission controllers' alertness, performance, health, and safety. The overall goals of our team include developing an online education training program and an efficient sleep disorders screening, evaluating the acceptability, feasibility and efficacy of a shorter wavelength photic countermeasure during operational night shifts to improve the alertness, performance, health and safety of mission controllers.

- 2009-2015 Effects of attending surgeon and obstetrician fatigue on operating room safety
NIH/NHLBI R01 HL095472
PI (\$1,000,000)
In this proposal we will conduct a prospective observational study in the operating rooms of two hospitals – a community hospital without resident-physicians, and an academic center where residents work as assistant surgeons – to evaluate the effects of sleep deprivation on the performance of attending surgeons and obstetrician / gynecologists.
- 2009-2015 Mechanisms underlying adverse health consequences of shift work
NIH R01HL094806 (PI: Scheer)
Investigator
We aim to determine the progressive physiological changes across a work week of realistic simulated shift work focusing on those metabolic, endocrine, inflammatory, and cardiovascular variables that are biomarkers of susceptibility to the development of diabetes, obesity, and cardiovascular disease. We will use a 14 day/night laboratory protocol involving a within-subject, randomized, cross-over design including a simulated night shift and day shift schedule using a formal battery of scheduled behaviors and light exposures in healthy day workers and shift workers.
- 2012-2015 Screening for Obstructive Sleep Apnea in National Football League Players
NFL Charities G.A.M.S. ID 839
PI (\$100,000)
This project will establish an NFL-wide system of identifying those at high risk of OSA and further evaluating those at high risk. The project will also establish a critical database that could guide team physicians on the diagnosis and management of OSA among NFL players. This will lead to improved cognitive and psychomotor performance in the short-term and reduced cardiometabolic risk in the long-term. The project also has the potential to raise awareness of the negative cardiovascular-related risks associated with OSA, a disease that is highly prevalent in our society at large. The increased awareness and involvement of NFL players in the project may motivate the general public to seek screening, evaluation and treatment, if necessary, which has the potential to substantially reduce morbidity and mortality due to CVD.
- 2012-2015 The ISS Dynamic Lighting Schedule: An In-Flight Lighting Countermeasure to Facilitate Circadian Adaptation, Improve Sleep and Enhance Alertness and Performance on the International Space Station
NSBRI HFP02801(PI: Lockley)
To study how new lighting would be used operationally to provide a countermeasure to shiftwork in a high-fidelity simulation of the ISS lighting environment and sleep patterns.
Co-Investigator
- 2001-2017 Flight-Based Protocol Aboard Space Shuttle: “Sleep-Wake Actigraphy and Light Exposure During Spaceflight
NASA NCC9-119
PI (\$1,340,327)
This project is designed to investigate sleep and circadian rhythm organization and the prevalence of space flight-induced insomnia, during short and long-duration space flight. This experiment will use state-of-the-art ambulatory technology to monitor sleep-wake activity patterns and light exposure in all crewmembers aboard Space Shuttle and International Space Station missions.
- 2010-2016 Sensitization of human circadian responses to light
NIH/NHLBI R01 HL94654
PI
The studies will examine the effect on the human circadian system of four different

- 2012-2016 durations of dim-light sensitization prior to a standardized light treatment.
Ultra-short light pulses as efficient countermeasures for circadian misalignment and objective performance and subjective alertness decrements
NSBRI HFP02802 (PI: Klerman)
Investigator
The goal of this project is to explore sex differences in response to circadian and length of time awake factors on sleep and performance.
- 2012-2016 Sleep Duration Required to Restore Performance During Chronic Sleep Restriction
NIH/NHLBI R01 HL114088 (PI: Klerman)
Investigator
The goal of this project is to explore sex differences in response to circadian and length of time awake factors on sleep and performance.
- 2016-2017 Ambulance Crashes in the United States: 2000 – 2015.
Falck Foundation (PI: Czeisler)
The goal of this grant is to determine the incidence of ambulance crashes in the United States over the past 15 years. Report temporal trends in both fatal and non-fatal crashes and use multiple sources of data to describe characteristics of these crashes. We will also estimate the proportion of crashes where fatigue may have been a contributing factor.
- 2016-2017 Environmental Factors Associated with Sleep Deficiency during Spaceflight
NSBRI HFP04502 (PI: Barger)
Investigator
The major goals of this project are to test the hypotheses that (1) hypoxia will be associated with sleep deficiency; (2) increased noise will be associated with sleep deficiency; and (3) hypercapnia will be associated with sleep deficiency.
- 2016-2017 The Impact of Objectively Measured Sleep Deficiency and Circadian Misalignment on Performance during Spaceflight
NSBRI HFP04504 (PI: Barger)
Investigator
The major goal of this project is to test the hypothesis that sleep deficiency and circadian misalignment will be associated with performance decrements during spaceflight.
- 2013-2018 Impact of Eliminating Extended Duration Work Shifts on Resident Health and Safety
CDC/NIOSH R01 OH0103001 (PI: Barger)
Investigator
We propose to conduct a large-scale nationwide survey of interns, similar to that which we conducted from 2002 – 2007. We will collect work hours and sleep data as well as health and safety outcomes on monthly web-based surveys.
- 2013-2018 Training in sleep, circadian and respiratory neurobiology
NIH T32 (National Heart, Lung & Blood Institute) 1 T32 HL07901
Competitive renewal for grant years 16-21
PI
The NHLBI's National Center for Sleep Disorders Research identified the need to train investigators as its highest priority. The Harvard Medical School Division of Sleep Medicine Program for Training in Sleep, Circadian and Respiratory Neurobiology, based at the Brigham and Women's Hospital, is designed to address this need. This program provides structured, comprehensive research training to prepare outstanding individuals for academic positions in the broad field of sleep science and sleep medicine.
- 2013-2019 Treatment of Circadian Disruption from Shiftwork in Older Adults
NIH/NIA R01 AG044416 (PI: Duffy)

Investigator

Our proposed study will test in older workers a sleep timing and enhanced lighting regimen that has been successful in allowing young workers to maintain optimal performance at night. Information from this study will be an important step in developing shift work treatments for the nearly 3 million older Americans who work night or rotating shift schedules.

- 2013-2018 Multi-Scale Modeling of Sleep Behaviors in Social Networks
NIH/NIGMS R01 GM105018
Co-PI (Co-PI: Klerman)
The purpose of this grant is to explore sleep behaviors and social networks in a college population. Using multi-modal data from different cohorts of undergraduates, we will develop the first statistical and multi-scale mathematical models of sleep dynamics within social networks based on sleep and circadian physiology.
- 2015-2019 Clinical Trial Evaluating the Impact of Sleep and Sleep Deprivation on the Cerebral Glymphatic System
ONR/N00014-15-1-2408
PI
The goals of this project are to test the hypothesis that the volume of Virchow-Robin spaces (VRs) is larger during sleep than during wakefulness; to test the hypothesis that the alteration of nonREM and REM states during sleep is associated with changes in the volume of VRs; to test the hypothesis that the volume of VRs is greater during deep nonREM sleep (N3) than during lighter nonREM sleep (N2) and to test the hypothesis that the volume of VRs is altered by prolonged wakefulness (sleep deprivation).
- 2012-2020 Multicenter trial of work-hour limits for PGY 2 & 3 resident work hours on patient safety
CCC
NIH/NHLBI U01 HL111478
Co-PI (\$8,249,567)
We propose to carry out a randomized study in six intensive care units nationwide that will test whether a scientifically-founded intervention schedule that: 1) limits second and third year resident physicians to 16 consecutive hours of work; 2) promotes sleep; and 3) minimizes chronic sleep restriction, will result in: a decrease in preventable injuries to patients, a decrease in the risk that resident physicians will suffer motor vehicle crashes, increased resident sleep, and increased resident vigilance.
- 2018-2020 CTA: Open-label Clinical Trial to evaluate the Efficacy of Sodium Oxybate (Xyrem) in the Treatment of two Under-recognized Clinical Conditions: Post-traumatic Narcolepsy and Post-traumatic Hypersomnia.
Jazz Pharmaceuticals, Inc.
PI
- 2013-2021 Sleep, Aging, and Circadian Rhythm Disorders
NIH/NIA P01 AG009975
Role: PI/PD (Principal Investigator/Program Director)
The central theme of this project is to differentiate the consequences of circadian disruption (while minimizing sleep loss) and sleep deficiency (while minimizing circadian disruption) on glucose regulation.

- 2014-2020 Development of Countermeasures Against Adverse Metabolic Effects of Shift Work
NIH/NHLBI R01 HL118601(PI: Scheer)
Role: Investigator
The goal of this application is to test whether manipulating the timing of food intake prevents the adverse metabolic effects of circadian misalignment, and whether desynchrony between the central circadian pacemaker and the behavioral cycle leads to internal desynchrony in humans.
- 2014-2019 Development and Testing of Biomarkers to Determine Individual Astronauts' Vulnerabilities to Behavioral Health Disruptions
NNX14AK53G (PI: Lockley)
Role: Investigator
This study will evaluate biomarkers that will test the sensitivity of various sleep and circadian challenges to differentiate individuals
- 2015-2020 Lighting Protocols for Exploration - HERA Campaign
NASA/NNX15AM28G (PI: Lockley)
Role: Investigator
The major goals of this project are to evaluate the efficacy of a combined countermeasure of light and exercise on alertness and performance.
- 2014-2021 Testing solid state lighting countermeasures to improve circadian adaptation, sleep, and performance during high fidelity analog and flight studies for the International Space Station
Thomas Jefferson University/NNX15AC14G (PI: Lockley)
Role: Investigator
The major goals of this project are to complete final ground-testing required before replacement of the current fluorescent General Luminaire Assemblies (GLA) with solid state (LED) lighting on the International Space Station, and to conduct the first flight studies to examine the operational impact of the new LED lighting to facilitate rapid circadian rhythm resetting, and improve alertness and sleep during missions.
- 2016-2021 Circadian Lipidomics in Constant Routine, Forced Desynchrony, and Non-lab Setting
NIH/NHLBI 5R01HL132556 (PI: Kristal)
Role: Investigator
The major goals of this project are to identify, optimize, validate, and to cross-validate a set of nested plasma lipidomics-based biomarker profiles that report circadian phase and alignment using well-characterized samples drawn from three constant routine protocols and four forced desynchrony protocols.
- 2016-2021 The Role of Circadian Periodicity in Human Cardiovascular Disease and Diabetes
NIH/NHLBI 5R01HL103607-05A1 (PI: Forman)
Role: Investigator
The major goals of this project are to examine the effects of melatonin supplementation on insulin sensitivity using a hypersulinemic euglycemic clamp and β -islet cell function measured using a hyperglycemic clamp. We will also evaluate the effects of supplementation on HbA1c as a secondary analysis
Role: Co-I
- 2017-2021 CTA: Effect of Dupilumab on Sleep Apnea Severity in Patients with Chronic

Rhinosinusitis. (PI: Wellman, D. Andrew) Regeneron Pharmaceuticals, Inc.
Role: Co-I

Current

- 2018-2023 Training in sleep, circadian and respiratory neurobiology
NIH T32 (National Heart, Lung & Blood Institute) 1 T32 HL07901
Competitive renewal for grant years 21-25
Role: Program Director
The NHLBI's National Center for Sleep Disorders Research identified the need to train investigators as its highest priority. The Harvard Medical School Division of Sleep Medicine Program for Training in Sleep, Circadian and Respiratory Neurobiology, based at the Brigham and Women's Hospital, is designed to address this need. This program provides structured, comprehensive research training to prepare outstanding individuals for academic positions in the broad field of sleep science and sleep medicine.
- 2019-2023 Impact of Lifting Work Hour Restrictions on First-Year Resident Safety, Health and Well-Being. R01OH011773 (Barger, Laura) 09/1/19-08/31/23 Centers for Disease Control (CDC) The study could have important public policy implications related to the health and safety of the more than 116,000 medical and surgical residents, who are the principal providers of medical care in academic medical centers throughout the United States. (PI: Barger LK)
Role: CoI
- 2019-2023 Clinical Trial—FAA Sleep Deprivation Study for Aviation Research: Comparison across multiple types of sleep deprivation. Contract 6973GH-19-D-00066 from Solicitation 6973GH-19-R-00147 (\$5,654,163.32) Federal Aviation Administration Aeronautical Center. The goals of this contract are: (i) To assess gene expression changes associated with reduced and mistimed sleep.; (ii) To explore the relationship between gene expression and neurobehavioral changes from reduced and mistimed sleep; (iii) To enhance general understanding of changes during reduced and mistimed sleep; and (iv)To analyze the concordance of sleep and circadian rhythm-related genetic variants with this study's results. (M-PIs: Klerman EB and Czeisler CA)I
Role: M-PI
- 2019-2023 CTA: Sleep Training Plan to Improve Individual Sleep, Health and Safety. The major goals of this project are to use personalized sleep app (Dayzz) to develop sleep training plans, improve participants' sleep and reduce overall healthcare costs. Dayzz Live Well Ltd. PI: Barger LK.
Role: Co-I

Role: PI (Principal Investigator)

Report of Local Teaching and Training

Teaching of Students in Courses

Albert Einstein College of Medicine, Bronx, NY

1976-1977	Biological Rhythms in Man ~15 medical students	Department of Neuroscience Co-organizer and lecturer ; ~55 hours
1978	Neuroscience Course ~150 medical students	Guest lecturer ; ~3 hours

Fordham University, Graduate School of Arts and Sciences, Bronx, NY

1978 Biology 69302: Introduction to Circadian
 Oscillations in Biologic Systems
 ~30 graduate/undergraduate students Course Developer/instructor; ~75 hours

Stanford University, Stanford, CA

1979 Stanford Medical School: Fiscal and
 Ideological Crisis. Stanford Workshop on
 Political and Social Issues
 ~75 undergraduate & medical students Co-developer/instructor ~70 hours

1979 Psychiatry 235: Clinical and Experimental
 Polysomnography
 30 undergraduates Guest Lecturer; ~3 hours

Harvard College, Cambridge, MA

1982-1996 Molecular & Cellular Biology 286:
 Biological Oscillations & Circadian Clocks
 1982-1990; alternate yrs Faculty ~40 hours/year
 15-20 undergraduates per year
 1992-1996; alternate yrs Co-Organizer/
 Faculty ~85 hr/year
 ~30 students/year

1983-1984, Adams House 116: Biological Clocks in
 1989 Man
 Undergraduate House Seminar Course ~60 hours/year
 Developer and Teacher
 15-20 undergraduates per year

1986-1987 Adams House 118: AIDS and Public Policy
 Undergraduate House Seminar Course ~60 hours
 Developer and Teacher
 ~18 undergraduates

1988 North House 120: AIDS: Emerging Ethical
 and Policy Dilemmas
 Undergraduate House Seminar Course ~50 hours
 Developer and Teacher
 ~25 undergraduates

1988 AIDS Education and Outreach Student
 Counselor Training Program
 Group advisor and training session speaker

1988 "Circadian rhythms and entrainment:
 endocrine aspects" North House Seminar
 Guest lecturer

1996-2020 Molecular & Cellular Biology 186:
 Circadian Biology: From Cellular
 Oscillators to Sleep Regulation
 Co-Organizer/Faculty (1996-2010); ~70 hours/year
 Director (2011-)
 50-110 undergraduates per year

2003 Harvard Alumni Association, Alumni
 College
 Lecturer ~5 hours

2016-2019	200-300 alumni Freshman Seminar FRSEM 22D Time for Sleep Director/Faculty 15 undergraduates per year	~90 hours per year
2018-2020	Molecular & Cellular Biology 186 (MCB186): Sleep and Circadian Clocks: From Biology to Public Health Director (2018-) 50-115 undergraduates per year	~70 hours/year
2019-2023	General Education 1038 (GenEd 1038): Sleep Course Director 801 undergraduates per year	~120 hours/year

Harvard Medical School, Boston, MA

1976	Weekly Research Seminar Series 10-15 graduate students	Department of Physiology Lecturer; ~5 hours
1982	Harvard Medical Society 150 medical students	Lecturer on human circadian physiology; ~5 hours
1979-1991, 1995	Physiology 225: Physiological Timing Systems 15-20 medical students, graduate students and undergraduates per year	~35 hours/year (as instructor 1979-1991) ~75 hour/year (as co-organizer 1995)
1995-1998	Neurobiology 337: Neurobiology of the Human Circadian Pacemaker Faculty doctoral thesis advisor, Program in Neuroscience, 1 doctoral student	60-80 hours/year
1996-2002	Continuing Education 61212: Diagnosis and Treatment of Sleep Disorders 60-70 postgraduate students/year	~45 hours/year (as Co-director) ~12 hours/year as organizing committee member and faculty ~6 hours/year as faculty member
2000-2003	Scholars in Clinical Science: Tools of Physiologic Investigation ~20 graduate students	8 hours

Harvard University Extension School, Cambridge, MA

2008	The Physiology of Sleep (BIOS E-210) Invited Guest Lecture, ~20 students	~5hours
------	-----------------------------------------------------------------------------	---------

Harvard School of Public Health, Boston, MA

1986	Occupational Health Weekly Symposium ~30 graduate students, postdoctoral fellows, faculty	Guest lecturer; 2 hours
------	----------------------------------------------------------------------------------------------	-------------------------

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

Stanford Medical School, Stanford CA

1977, 1979 Research Center and Sleep Disorders Clinic
 Seminar Series
 ~10 graduate students and postdoctoral fellows Lecturer; ~5 hours/year

Laboratory and Other Research Supervisory and Training Responsibilities

Brigham and Women's Hospital, Boston, MA

1982-1988 College Work-Study training program in laboratory research techniques. 30 student-trainees/term, 3 week-long sessions/year
 Developer/supervisor
 1995-2000 Special Emphasis Research Career Award Program, National Institute on Aging. Faculty sponsor. 2 junior faculty trainees

Harvard Medical School, Boston, MA

1983-1987 Research preceptor, Pre-doctoral Fellow. Medical Scientist Training Program
 2001- Research Preceptor, HMS Student in HST Program. Division of Health Science and Technology (HMS/MIT) 1 medical student/year, 50-100 hours/year
 1986,1987, 1990 Faculty mentor, Brigham-Beth Israel Medical Group Program. Summer Research Fellowship Program. 1 medical student/summer; 25-40 hours/summer
 1986-1991 Faculty advisor. Medical student research traineeship 1 medical student/year; 40-60 hours/year
 1993-1994 Oral Examination and Ph.D. Dissertation Examining Committees
 1994-1997 Mentor, Faculty Training Grants, for Charles Weitz, M.D., Assistant Professor of Neurobiology and Emery N. Brown, M.D., Ph.D., Assistant Professor of Anesthesiology, Harvard Medical School
 1994-1995, 2001 Faculty advisor. Research Rotation, Program in Neuroscience 1 doctoral student/year; 10-20 hours/year
 1995-1998 Committee Member and/or Advisor. Program in Neuroscience
 2000-2004 Research Preceptor, two HST students 40-50 hours/year
 2001-2005 Research Preceptor, HMS student 20-30 hours/year
 2002- Mentor, Faculty Training Grant (NIH K08), for an Instructor of Pediatrics, Harvard Medical School
 2003-2004 Mentor, GCRC Medical Student Clinical Research Training Award, for two HMS students

Harvard University Graduate School of Arts and Sciences, Cambridge, MA

1983-1986, Oral Examination and Ph.D. Dissertation
 1994-1997 Examining Committees, Division of Applied

Sciences; Co-advisor and Committee Member

Harvard College, Cambridge, MA

1981-1985, 1987-1988, 1992, 1994 1984	Biology 90r: Supervised Research. Faculty preceptor first semester, then undergraduate thesis advisor	1-2 undergraduates per year; ~50 hours/year
1984	Biology 91r: Supervised Reading. Faculty preceptor, directed reading	1 undergraduate; ~15 hours/year
1984	Economics 910r: Supervised Reading and Research. Faculty advisor, directed reading	1 undergraduate; ~15 hours/year
1984-1987	Psychology and Social Relations 990: Senior Tutorial. Faculty preceptor first semester, then undergraduate thesis advisor	1 undergraduate; ~50 hours/year
1994	Nathaniel Kleitman Undergraduate Summer Fellowship Program in Human Chronobiology. Faculty advisor	5 summer undergraduate students; ~10 hours
2002-2003	Biology 90r: Supervised Research. Undergraduate thesis advisor	

Formally Supervised Trainees

Brigham and Women's Hospital, Boston, MA

1983-1986, 1988-1992	Gary S. Richardson, M.D. Research supervisor; Clinical Fellow Research Residency Program and Faculty sponsor for junior faculty research trainee, Physician Scientist Award Program, National Institute on Aging, NIH.
1985-1987	Joel Steinberg, M.D. Post-doctoral fellow advisor
1986-1988	Suzanne Rogacz, M.D. Endocrine Training Program Research supervisor, Post-doctoral fellow advisor, Faculty sponsor for junior faculty clinical research trainee. Clinical Associate Physician Award Program, General Clinical Research Program, National Center for Research Resources, National Institutes of Health.
1994-1996	Emery N. Brown, M.D., Ph.D./Professor of Health Sciences and Technology and Professor of Computational Neuroscience, Massachusetts Institute of Technology Professor of Anaesthesia, Harvard Medical School Massachusetts General Hospital Endocrine Training Program Research supervisor and Post-doctoral fellow advisor
DATE	Janis Anderson, Ph.D./Assistant Professor of Psychology, Department of Psychiatry, Harvard Medical School/Brigham and Women's Hospital Post-doctoral fellow advisor
1988-1990	Marie Dumont, Ph.D. Post-doctoral fellow advisor

Faculty Advisor, Pre-doctoral Fellow, Training Program in Sleep, Circadian and Respiratory Neurobiology, National Heart Lung and Blood Institute

1991 - 1995	Elizabeth B. Klerman, M.D., Ph.D./Associate Professor of Medicine, Division of Sleep Medicine, Harvard Medical School; Associate Physician, Division of Sleep Medicine, Department of Medicine Brigham and Women's Hospital Endocrine Training Program Research supervisor and Post-doctoral fellow advisor
1997 - 2000	Kenneth P. Wright Jr., Ph.D./Assistant Professor, Department of Integrative Physiology Director, Sleep and Chronobiology Laboratory, Centers for Neuroscience and the Integrative Study of Work, University of Colorado at Boulder

- 1994 - 1999 Endocrine Training Program Research supervisor and Post-doctoral fellow advisor
Jamie M. Zeitzer, Ph.D./ Assistant Professor, Psychiatry and Behavioral Sciences, Stanford University and VA Palo Alto Health Care System, Palo Alto, CA
- 1997 - 2004 Angela Ritz-De Cecco, Ph.D./Pharmacist, Switzerland
- 2002 - 2005 Kurt A. Smith, M.D./ Resident and Clinical Instructor, Emergency Medicine, University of Cincinnati School of Medicine
- 2003 - 2006 Martin W. Schoen, M.D./ Intern, Department of Internal Medicine, Naval Medical Center, San Diego

Faculty Advisor, Post-doctoral Fellow, Training Program in Sleep, Circadian and Respiratory Neurobiology, National Heart Lung and Blood Institute

- 1986 - 1989 Steven H. Strogatz, Ph.D./ Director of Center for Applied Mathematics; Professor of Theoretical and Applied Mechanics, Cornell University
- 1991 - 1994 Ghada El-Hajj-Fuleihan, M.D./ Professor of Medicine and Director of the Calcium Metabolism and Osteoporosis Program, American University of Beirut Medical Center
- 1992 - 1997 Diane B. Boivin, M.D., Ph.D./ Associate Professor, Psychiatry Medicine, McGill University, Sleep Disorders Physician, Psychiatry, Douglas Hospital; Director, Centre for Study and Treatment of Circadian Rhythms
- 1993 - 1995 David Neri, Ph.D./ Deputy Director, Cognitive, Neural, and Biomolecular Science & Technology Division, Office of Naval Research
- 1995 - 1998 James K. Wyatt, Ph.D., D ABSM/Assistant Professor, Behavioral Sciences, Rush Medical College; Director, Sleep Disorders Center, Rush University Medical Center; Fellow, American Academy of Sleep Medicine
- 1996 - 1998 Sat Bir Khalsa, Ph.D./ Assistant Professor of Medicine, Division of Sleep Medicine, Harvard Medical School; Associate Neuroscientist, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital
- 1996 - 2000 Todd Horowitz, Ph.D./Instructor In Ophthalmology, Harvard Medical School; Research Associate, Brigham and Women's Hospital
- 1998 - 2000 Jeanne Duffy, M.B.A., Ph.D./ Associate Professor of Medicine, Division of Sleep Medicine, Harvard Medical School; Neuroscientist, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital
- 1999 - 2003 Claude Gronfier, Ph.D./ Research Assoc., Inserm, France
- 2000 - 2003 Steven Lockley, Ph.D./ Associate Professor of Medicine, Division of Sleep Medicine, Harvard Medical School; Neuroscientist, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital
- 2000 - 2002 Laura K. Barger, Ph.D./ Instructor in Medicine, Division of Sleep Medicine, Harvard Medical School; Associate Physiologist, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital
- 2006 - 2007 Christopher Carello, Ph.D./Medical Liaison, Eli Lilly and Company
- 2004 - 2006 Julie Marie Gottselig, Ph.D./ Law student, New England School of Law
- 2011- Michael Lee, Ph.D./ Research Fellow in Medicine, Brigham and Women's Hospital, Harvard Medical School
- 2014- Nina Vujovic, Ph.D./ Research Fellow in Medicine, Brigham and Women's Hospital, Harvard Medical School

Faculty Co-Advisor, Pre- and Post-doctoral Fellows, Training Program in Sleep, Circadian and Respiratory Neurobiology, National Heart Lung and Blood Institute

- 1999 - 2001 Scott P. Grady, M.D., Ph.D./ Clinical Endocrinologist, Portland Diabetes and Endocrinology Center
- 2002 - 2004 John Cronin, M.D./ Skaggs Scholar, The Scripps Research Institute; Associate Director, Scripps Clinic Sleep Center

2004	Shana E. McCormick, M.D./ Pediatric Resident, Massachusetts General Hospital
2002 - 2004	Nayantara Santhi, Ph.D./Research Fellow, Surrey Sleep Research Centre, Guildford U.K.
2003 - 2004	Anne-Marie Chang, Ph.D./Assistant Professor of Medicine, Pennsylvania State University
2003 - 2005	Frank A.J.L. Scheer, Ph.D./ Associate Director, Medical Chronobiology Program, Brigham and Women's Hospital; Assistant Professor of Medicine, Harvard Medical School; Associate Neuroscientist, Brigham and Women's Hospital
2005 - 2007	Joshua J. Gooley, Ph.D./ Lecturer in Medicine (academic, part-time), Harvard Medical School; Assistant Professor, Duke-NUS Graduate Medical School Singapore
2006 - 2008	Daniel Cohen, M.D./Associate Staff Neurologist, Beth Israel Deaconess Medical Center
2002 - 2010	Joseph T. Hull, Ph.D./ Research Fellow in Medicine, Division of Sleep Medicine, Brigham and Women's Hospital, Harvard Medical School
2004 - 2010	Erin E. Flynn-Evans/Research Psychologist, NASA
2004 - 2011	Melissa A. St. Hilaire, M.S., Ph.D./Research Fellow in Medicine, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital
2006 - 2011	Sean W. Cain, Ph.D./ Lecturer in Medicine (academic, part-time), Harvard Medical School; Senior Lecturer, Monash University, Australia.
2007 - 2011	Melodee Mograss, Ph.D./ Banting Scholar, The Research Institute of the McGill University Health Centre, Montreal, Quebec
2006 - 2013	Melanie Rüger, Ph.D./ Instructor in Medicine, Brigham and Women's Hospital, Harvard Medical School

Formal Teaching of Peers (e.g., CME and other continuing education courses)

Academy at Harvard Medical School, Boston, MA

2002	Medical Education Symposium: How the Brain Learns: Implications for Medical Education from the Neurosciences and Cognitive Theory	Lecture
------	-----------------------------------------------------------------------------------------------------------------------------------	---------

Brigham and Women's Hospital, Boston, MA

1986	“Sleep Disorders” Endocrine Division Postgraduate Medical Series	~40 CME students; ~3 hours
1987	“Circadian rhythmicity and its disorders” Weekends in Internal Medicine	~60 CME students; ~3 hours
Unknown	Patient Safety Imperative CME Course Division of General Medicine	

Harvard T.H. Chan School of Public Health, Boston, MA

1990-1991	Work Schedules & Circadian Rhythms: Strategies for Improving Health, Safety, and Performance in Shift Work Operations	Faculty course director
2007-2009, 2011-2015	Ergonomics and Human Factors: Strategic Solutions for Workplace Safety and Health	Invited faculty member
2007	Epidemiology of the Occupational & Environmental Health Standards (EH 236)	Invited faculty member
2012	Sleep and Shift Work: Optimizing Productivity and Health Management in the 24/7 Global Economy Symposium	Invited faculty member and keynote speaker

Harvard Medical School, Boston, MA

2012	Physician Work Hours, Health and Patient Safety	Course Director and faculty member
2013	The New Science of Resiliency and its Clinical	Faculty member

2014	Applications “Circadian Regulation of Sleep” for ‘Sleep! A CME Course for Physicians’	Faculty member
2015	“Consciousness” for ‘Sleep! A CME Course for Physicians’	Faculty member
2016	‘Sleep! A CME Course for Physicians’	Faculty member
2017	Circadian Control of Sleep for ‘Sleep! A CME Course for Physicians’	Faculty member

Local Invited Presentations

Stanford Medical School, Stanford CA

1978	Stanford Medical and Scientific Highlights Faculty Senate
------	--------------------------------------------------------------

Harvard Medical School, Boston MA

1983	Harvard Medical School Faculty Meeting
1990	Shiftwork, circadian rhythms and sleep deprivation Harvard Medical School Committee on Hospital Safety
2000	Medical Ethics Forum: Medical Error: Patients in Peril? Division of Medical Ethics and Division of Sleep Medicine
2001	Conference on Resident Work Hours
2001	Sleep and Public Policy, New York Regional Council
2002	Combined Orthopedic Grand Rounds, Resident Work Hours, Safety and Health
2002	Keynote Speaker, 1 st Annual Sleep and Health Benefit Dinner Division of Sleep Medicine
2010	Organizing Committee and Speaker “Finding a research path for the identification of biomarkers of sleepiness” Division of Sleep Medicine
2012	Invited Speaker HMS Leadership Summit

Harvard College, Cambridge, MA

1988	Invited discussant, “The Ethics of AIDS Testing” Adams House, Harvard College
2013	Invited Speaker “Sleep, circadian rhythms, health and safety” Harvard Wellness Project, Harvard College

Harvard T.H. Chan School of Public Health, Boston, MA

2012	Invited discussant, “FIGHTING THE CLOCK: How America’s Sleep Deficit is Damaging Longterm Health” The Forum webcast, Harvard School of Public Health
2016	Invited Panel Member, “ASLEEP AT THE WHEEL: Drowsy Driving and Public Health” Presented in Collaboration with The Huffington Post The Forum webcast, Harvard School of Public Health

Harvard University, Cambridge, MA

2018	Invited Faculty “Mind/Brain Puzzle on Sleep” Harvard University Mind Brain Behavior Interfaculty Initiative (MBB)
------	----------------------------------------------------------------------------------------------------------------------

Beth Israel Hospital, Boston, MA

1983 Neurology Grand Rounds
1986, 1988 Medical Grand Rounds
1989, 1991
1990 “Human circadian rhythmicity and its potential relevance to anesthesia research and clinical care”
Anesthesia and Critical Care Grand Rounds
1997, 2000 Psychiatry Grand Rounds

Beth Israel Deaconess Medical Center, Boston MA

2002 Endocrine Grand Rounds
2002 Assessment of the Impact of Intern Work Hours on Patient Safety and Intern Health and Performance
Chiefs’ Council
2006 OB/GYN Grand Rounds

Brigham and Women's Hospital, Boston, MA

1983, 1996, Endocrine Grand Rounds
2001
1986, 1988, Medical Grand Rounds
1991, 1993, Department of Medicine
2001, 2002,
2004, 2008
1989 “Sleep Loss, Circadian Rhythms and the Hospital Intern”
Graduate Medical Education Committee Program
1994 “Circadian rhythms, sleep deprivation and emergency medicine”
Emergency Medicine Rounds
1995 “Advances in Circadian and Sleep Medicine, Disorders and Physiology”
Medical Staff Grand Rounds
2002 Noon House Staff Conference
Department of Medicine
2002 Work Hours, Sleep and Safety of Medical House Staff, Faculty Meeting and Executive Committee
Department of Medicine
2002 Sleep and the Healthcare Provider: Impact on Performance, Quality & Safety, Quality Rounds
2004 Patient Safety Imperative, Division of General Medicine
2007 Obstetrics and Gynecology Grand Rounds
2009 “Sleep, Light and the Human Circadian Pacemaker”
Sleep Grand Rounds
2010 “Minding your brain: staying sharp”
Men’s Health Program, Palm Beach, FL
2013 Guest Faculty Speaker
Women’s Health Luncheon, Boston MA
2013 Guest Speaker
Tye Health Coverage Fellowship, Boston MA
2015 “A Sleep Epidemic”
BWH Inspires Event, Palm Beach FL
2015 “Sleep Deficiency and Public Health”
Discover Brigham, Sleep Medicine Session, Brigham Research Institute, Boston MA
2017 “Sleep Hygiene for Physician Shift Workers”
Invited Speaker, Emergency Medicine Resilience Day, Boston MA

- 2018 Sleep Epidemic: Why are we sleeping less and What can we do about it?
Invited Faculty CME, BWH, Boston MA
- 2018 Speaker and Chair "Sleep Matters Initiative"
Discover Brigham, Sleep Medicine Session, Brigham Research Institute, Boston MA

Children's Hospital, Boston, MA

- 1998 Neurosurgery Grand Rounds
- 2010 Invited Speaker "Introduction to Circadian Biology"
Updates in Pediatric Sleep Disorders Conference

Massachusetts Eye and Ear Infirmary, Boston, MA

- 1992 "Synchronization of the human circadian pacemaker by light: relevance to the treatment of
'blind' patients"
Research Symposium: "Advanced Concepts in Vision Science"

Massachusetts General Hospital, Boston, MA

- 1987 Chronobiology Research Group Seminar
Department of Pediatrics
- 1988, 2007 Endocrine Grand Rounds
- 1992 Neuroscience Lecture
- 2007 Anesthesia and Critical Care Grand Rounds
- 2013 Endocrine Grand Rounds

Partners HealthCare System

- 2001 Partners Chiefs' Council
- 2002 Assessment of the Impact of Intern Work Hours on Patient Safety and Intern Health and
Performance
Partners Education Committee
- 2002 Work Hours, Health and Safety in Resident Physicians
BWH-MGH Joint Chiefs Council
- 2003 Physiologic Determinants of Alertness and Performance: Implications for Physician Work
Hours, Safety and Learning
Partners Faculty Development Conferences (at MGH and at BWH)
- 2015 Invited Speaker
1: Thought Leaders Lunch "Technology, Light and Sleep - Implications for Health and
Medicine"
2: "Sleep and Consciousness: Clinical Need versus Safety"
World Medical Innovation Forum, Boston MA

Spaulding Rehabilitation Hospital, Boston, MA

- 2003 Spaulding Distinguished Lecture

Veterans Administration Hospital, Jamaica Plain, MA

- 1986 Grand Rounds

Veterans Administration Hospital, Brockton, MA

- 1995 "Resetting the human circadian pacemaker with light"
Medical Grand Rounds

Veterans Administration Hospital, West Roxbury, MA

- 2004 Seminar Series

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

Regional

1978 Biological Clockwatchers Club
Boston, MA

Between
1985-1987 Invited Speaker.
Massachusetts Mental Health Center, Boston, MA

1986 Physiology course on circadian rhythmicity. Lecturer; ~25 medical students; ~3 hours
Boston University Medical School, Boston, MA

1987 Clinical Research Training Seminar, "Human circadian rhythmicity and its disorders"
Massachusetts Mental Health Center, Boston, MA

1988 Nursing and Human Resources Departments Seminar "Circadian rhythms, sleep
deprivation and the scheduling of nurses"
New England Medical Center, Boston MA

1988 Invited Speaker.
Northeastern Sleep Society, Boston MA

1989 Lincoln Laboratory Distinguished Lecture Series. Invited Speaker.
Massachusetts Institute of Technology, Cambridge MA

1990 Department of Biology Colloquium
Northeastern University, Boston MA

1992-1993 Biomedical Engineering Undergraduate Program. Faculty research advisor. 1
undergraduate; ~10 hours/year
Boston University, Boston, MA

1992-1999 Graduate Program in Biology: Physiology and Neurobiology. Faculty research sponsor; 1
doctoral student; ~20 hours/year
Northeastern University, Boston, MA

1994-1995 Biomedical Engineering Graduate Degree Program. Faculty research sponsor. 1 graduate
student; ~10 hours/year
Boston University, Boston, MA

Between
1994-1996 Invited Speaker.
Massachusetts Institute of Technology, Cambridge MA

1995-1998 Graduate Program in Cardiopulmonary Sciences. Faculty research sponsor; 1 graduate
student; ~20 hours/year
Northeastern University, Boston, MA

1996-1997 Biology 99d: Senior Research and Senior Honors in Biology. Faculty research sponsor; 1
undergraduate; ~10 hours/year
Brandeis University, Waltham, MA

1997 Medical Grand Rounds.
Boston University Medical Center, Boston MA

Between
1997-2001 Endocrine Grand Rounds
Risk Management Foundation, Boston, MA

Between
1997-2001 Invited Speaker.
New England College of Occupational and Environmental Medicine, Groveland MA

Between
1997-2001 Invited Speaker.
Boston Society of Neurology and Psychiatry, Boston MA

Between
2002-2008 Invited Speaker. Resident Physician Section
Massachusetts Medical Society, Waltham MA

Between
2002-2008 Medical Grand Rounds
New England Medical Center, Boston MA

Between
Advanced Neurobiology BI374. Guest Lecturer.

2002-2008 Colby College, Waterville, Maine
2003-2006 “Circadian Biology: From Clock Genes and Cellular Rhythms to Sleep Regulation”. Guest Lecturer.
NSF-Chautauqua Short Courses for College Teachers
2006 Psychiatry Grand Rounds.
Dartmouth Medical School, Lebanon, NH
2006 Beckwith Family Lecture. Medical Grand Rounds.
Brown University, Providence, RI
2007 Drowsy Driving Panel
National Conference of State Legislatures, Boston, MA
2008 “Bringing Circadian Rhythm Science into the Sleep Clinic”. Invited Speaker - Future of Clinical Sleep Medicine Conference.
Sleep HealthCenters, Boston
2009 Drowsy Driving Legislation. Invited Speaker
North East Sleep Society Conference, Boston MA
2009 Speaker in three symposia:
1. Addressing OSA in commercial drivers
2. Legislative initiative to reduce drowsy driving crashes
3. Inter-individual differences in the impact of sleep loss on neurobehavioral performance: Regulatory implications for the transportation industry
Fatigue Management in Transportation Operations 2009 International Conference, Boston MA
2010 Organizing Committee and Speaker
Sleep, Supervision and Safety Conference, Boston, MA
2011 Organizer and Speaker “Exploratory Seminar on Drowsy Driving”
Radcliffe Institute for Advanced Study, Harvard University, Cambridge MA
2011 Invited Speaker “Sleep to Thrive”
TEDx Cambridge ‘Thrive’, Cambridge MA
2012 Invited Panelist “Sleep Chat”
NIH Twitter Event, Boston MA
2012 Invited Speaker “Near-24-hour intrinsic period of the human circadian pacemaker: challenge for adaptation to the Martian sol”
Massachusetts Institute of Technology, Cambridge MA
2012 Invited Speaker, Discussion Panel “Measuring Sleepiness in Drivers: The Challenges and Controversies”
Association of Professional Sleep Societies Annual Meeting, Boston MA
2012 Invited Speaker, Discussion Panel “Body Mass Index is an Effective Measure for Occupational Screening of Employees at High Risk for Moderate to Severe Obstructive Sleep Apnea: Implications for DOT Commercial Driver Medical Examinations”
Association of Professional Sleep Societies Annual Meeting, Boston MA
2012 Chair Oral Presentation Session “Circadian Rhythms: Fiat Lux!”
Association of Professional Sleep Societies Annual Meeting, Boston MA
2014 Invited Speaker “Sleep, performance and health in a 24/7 culture”.
MIT Media Lab, Massachusetts Institute of Technology, Cambridge MA
2015 Panelist “School Community Meeting on School Start Time”
Latin Academy School (BLA), Boston MA
2015 Invited Speaker “The Science of Sleep and Health”
2015 World Congress on Angiogenesis, Angiogenesis Foundation, Boston MA
2015 Invited Speaker “Light, Sleep Disorders and the Working Environment”
Light in Sight Lecture Series, New England College of Optometry, Boston MA

- 2015 Invited Speaker “Sleep, circadian rhythms, health and performance”
Invited Speaker, Mind+Hand+Heart Wellness Initiative, Computer Science and Artificial
Intelligence Lab (CSAIL) at MIT, Cambridge MA
- 2016 “Circadian Disorders”
Grand Rounds, Newton-Wellesley Hospital, Newton MA
- 2016 Invited Speaker – Panel “Drowsy Driving the Problem with the Accepted Practice”
2016 Northeast Transportation Safety Conference, Worcester MA

National

- 1978 Association for the Psychophysiological Study of Sleep. Invited Speaker
- 1978 NY Intradepartmental course on sleep. Guest lecturer; ~20 students; ~3 hours
Columbia University Psychiatric Institute, New York, NY
- 1980 Sleep Research Society. Satellite symposium chair on the Timing of REM Sleep
- 1978 Department of Biology course. Guest Lecturer.
University of New York, Stony Brook
- 1981 American Association for the Advancement of Science. Symposium co-chair
- 1982 Gordon Research Conference on Theoretical Biology and Biomathematics. Guest Lecturer.
- 1985 Sleep Research Society. Satellite symposium co-chair
- 1985 Postgraduate CME course,
Montefiore Hospital, Bronx NY
- Between
1985-1987 Satellite symposium co-chair.
Sleep Research Society
- 1986 American Association for the Advancement of Science. Invited Speaker.
- 1986 Society for Neuroscience. Invited Speaker.
- 1986 Academy of Behavioral Medicine Research. Invited Speaker.
- 1986 Grand Rounds, Carrier Foundation. Invited Speaker.
- 1986 “Impact of irregular work schedules on circadian training systems: Implications for
scheduling emergency room specialists”. Invited Lecturer.
American College of Emergency Physicians, Washington DC.
- 1986 Postgraduate CME course, Sleep Research Society (faculty/course developer);
- 1987 Association of Professional Sleep Societies. Invited Speaker.
- 1987 Invited Speaker.
Rockefeller University, New York, NY.
- 1987 Invited Speaker.
NASA-Ames Research Center, Moffett Field, CA
- 1987 Invited Speaker.
Sandoz Pharmaceutical, Broomfield CO
- 1987 “Creating work schedules based on biological needs” Edison Electric Institute and
Electrical Council of New England. Invited Speaker.
- 1987 Psychiatry Grand Rounds. Invited Speaker.
Cornell University Medical School, New York, NY
- 1987 Joint Endocrinology and Metabolism Rounds.
New York Hospital and Memorial Hospital. Invited Speaker New York, NY
- 1987 Palo Alto Clinical Monitoring Center. Invited Speaker.
Palo Alto, CA
- 1987 Sleep Disorders Medicine Postgraduate CME course. Guest Lecturer.
Medlantic Institute, Washington DC
- 1988 “Late luteal phase dysphoric disorder”. Invited Speaker.
National Institute of Mental Health Conference
- 1988 Elliot D. Weitzman Memorial Lecture.

Cornell University Medical School, New York NY
1988 New York Sleep Circle. Invited Speaker.
1988 Invited Speaker.
NASA-Goddard Space Flight Center, Greenbelt MD.
1988 Society of Surgical Chairman. Invited Speaker.
1988 “Interaction between Sleep and the Circadian System”, Society for Research on Biological Rhythms
1988 Invited Symposium Speaker Association of Professional Sleep Societies, symposium chair
1988 Medical Grand Rounds.
Duke University Medical Center, Durham NC
1988 Clinical Chronobiology Conference. Invited Speaker.
1988 Faculty Guest lecturer.
University of California Medical School, Davis, CA
Between Invited Speaker.
1988-1990 NASA Headquarters, Houston TX
Between Invited Symposium Speaker
1988-1990 Society for Neuroscience
Between Symposium Speaker
1988-1990 Academy of Behavioral Medicine Research
1989 Invited Speaker.
NASA-Ames Research Center, Moffett Field, CA
1989 Basic Sleep Research Panel. Invited Speaker.
Institute of Medicine, National Academy of Sciences, New York, NY
1989 National Consensus Conference on Therapeutic Treatment of Sleep Disorders in Older People. Invited Speaker.
National Institute on Aging, Bethesda MD
1989 “Correlations of Aging and Space: Effects on Biosystems”. Invited speaker.
Joint Research Conference NASA, National Institute on Aging, and the Lew Evans Foundation
1989 “Fatigue and Driver Alertness”. Invited Speaker.
Federal Highway Administration, U.S. Department of Transportation
1989 “Sleep and Driving Safety”. Invited speaker.
National Press Club Conference
1989 Society of Industrial and Occupational Hygienists Annual Meeting. Invited Speaker.
1989 Invited Symposium Speaker.
American Association for the Advancement of Science
1989 Medical Grand Rounds.
University of Texas Southwestern Medical School, Dallas TX
1989 General Electric Company. Invited Speaker.
1989 Smith College Colloquium. Invited Speaker.
1989 Academic Practice Assembly, Administrators of Internal Medicine. Invited Speaker.
1989 “Meet the Professor”
Association of Professional Sleep Societies
1989 Postgraduate CME Course. Faculty Guest Lecturer.
Mayo Clinic Medical School, Rochester MN
1989 Postgraduate CME Course. Faculty Guest Lecturer.
Presbyterian Hospital, University of Texas Southwestern Medical Center, Dallas TX
1990 MacArthur Foundation Mental Health Research Network. Invited Speaker
1990 NASA/National Science Foundation Conference on Antarctic Research. Invited Speaker.
1990 Invited Speaker.

Rockefeller University, New York, NY.
1990 Department of Pharmacology University of Chicago Colloquium. Invited Speaker.
University of Illinois/Chicago Circle
1990 Hypertension Symposium. Invited Speaker
Marion Merrell Dow, Kansas City, MO
1990 NASA Biomedical Research Program, Circadian Rhythms Workshop
1990 Workshop on Circadian Rhythm Shifting, Medical Sciences Division. Invited Speaker.
NASA-Johnson Space Center, Houston TX
1990 Invited Speaker.
American Psychiatric Association.
1990 Medical Grand Rounds.
University of Wisconsin-Madison Medical School, Madison WI
1990 Endocrine Grand Rounds
University of Wisconsin-Madison Medical School, Madison WI
1990 Endocrine Grand Rounds
University of Chicago, Chicago IL
1990 Society of Research Administrators. Invited Speaker
1990 Whitney Symposium on Science and Technology, General Electric Corporate Research
and Development. Invited Speaker.
1990 American Association of Homes for the Aging. Invited Speaker.
1990 Session Chairman.
Association of Professional Sleep Societies.
1990 "Disorders of Circadian Function: Clinical Consequences and Treatment"; NIA/NIH
Consensus Development Conference. Invited Speaker.
1990 "Meet the Professor"
Association of Professional Sleep Societies
1991 National Advisory Council. Invited Speaker.
National Institute on Aging, Bethesda MD
1991 National Science Foundation Science and Technology Center Industrial Outreach
Symposium. Invited Speaker.
1991 3 teaching hospitals. Invited Speaker.
1991 Invited Speaker.
University of Virginia School of Medicine, Charlottesville VA
1991 Invited Speaker.
University of Chicago Pritzker School of Medicine, Chicago IL
1991 Keynote Speaker.
Central States Occupational Medical Association.
1991 Invited Speaker
Association of Polysomnographic Technologists.
1991 Invited Speaker.
University of Virginia, Charlottesville VA
1991 Postgraduate CME Course. Faculty Guest Lecturer.
Yale-New Haven Sleep Disorders Center
Between Joint Conference. Invited Speaker.
1991-1993 American Psychological Association, Brock University and National Institute of Mental
Health
Between Invited Speaker.
1991-1993 Johns Hopkins University School of Medicine, Baltimore MD
1992 National Advisory Council. Invited Speaker.
National Institute of Neurological and Communicative Disorders and Stroke, Bethesda

MD

1992 Medical Grand Rounds.
Sinai Hospital of Baltimore, Baltimore, MD

1992 Invited speaker.
American Psychosomatic Society.

1992 “Human Phase-shifting and Entrainment”. Invited Speaker.
Society for Research on Biological Rhythms

1992 Invited Speaker.
National Institute for Brain Research.

1992 Invited Speaker.
Gordon Research Conference on Theoretical Biology and Biomathematics.

1992 Postgraduate CME Course. Invited Speaker.
Association of Professional Sleep Societies.

1993 Invited Speaker.
Inter-urban Clinical Club, Association of Professors of Medicine.

1993 Invited Speaker.
United States Army Research Institute of Environmental Medicine.
Life Sciences Division. Invited Speaker.

1993 NASA Johnson Space Center, Houston TX

1993 Invited Speaker.
Sleep Disorders Round Table, Smith-Kline-Beecham.

1993 “Circadian rhythms and sleep disorders: Role of melatonin” Workshop. Invited Speaker.
Institut de Recherches Internationales Servier

1993 “Sleeping Well: Overcoming Sleep Disorders” American Medical Association Educational
Briefing. Invited speaker.

1993 Invited Speaker.
Association of Professional Sleep Societies.

1993 Sleep Onset Mechanisms Conference. Invited Speaker.
American Psychological Association, Brock University and National Institute of Mental
Health, Division of Neuroscience and Behavioral Science

1993 National Science Foundation Center for Biological Timing Summer Course on Biological
Rhythms. Faculty Guest Lecturer.
University of Virginia, Charlottesville VA

1993 Faculty Guest Lecturer.
Gordon Research Conference on Chronobiology.

1993 Faculty Guest Lecturer.
Projects in Knowledge Faculty Training Program on Insomnia.

1993 Postgraduate CME Course “Controversies in Light Therapy”. Faculty Guest Lecturer.
Association of Professional Sleep Societies.

1994 Strategy Development Workshop on Sleep Education. Invited Speaker.
National Heart Lung and Blood Institute, Bethesda MD

1994 Workshop on Neural Basis of Psychopathology. Invited Speaker.
Division of Neuroscience and Behavioral Science, National Institute of Mental Health,
Bethesda MD

1994 Invited Speaker.
Rockefeller University, New York NY

1994 Scripps Clinic. Invited Speaker.

1994 Philips Forum. Invited Speaker.
Lighting Research Institute, Rensselaer Polytechnic Institute, Troy NY

1994 Invited Speaker.

1994 Interneuron Pharmaceuticals, Inc, Lexington MA
Invited Speaker.

1994 Alza Pharmaceutical, Mountain View CA
Workshop on Sleep Disorders,
Bristol Myers Squibb, New York NY

1994 “Circadian Control of REM Sleep”. Invited Speaker.
Society for Research on Biological Rhythms

1994 Symposium and workshop co-chair
Association of Professional Sleep Societies.

1994 AMDD Neurology Conference. Invited Speaker.
US Army Medical Department, Uniformed Services, University of the Health Sciences

1994 “Circadian Clocks and Their Adjustment”. Invited Speaker.
Ciba Foundation Symposium.

1994 Postgraduate CME Course on Sleep Disorders. Faculty Guest Lecturer.
Scripps Clinic.

1994 Postgraduate CME Course “Shift Work: Health Effects and Coping Strategies”. Faculty
Guest Lecturer.
American College of Occupational and Environmental Medicine, Elk Grove Village IL

Between 1994-1996 Invited Speaker.
Woods Hole Marine Biological Laboratory Lecture Series

Between 1994-1996 Invited Speaker. Workshop on Melatonin and Sleep
National Institute on Aging, Bethesda MD

Between 1994-1996 Invited Speaker.
American Thoracic Society

Between 1994-1996 Postgraduate CME Course
American Clinical Neurophysiology Society

Between 1994-1996 Postgraduate CME Course
CME, Inc.

1995 “Managing Fatigue in Transportation: Promoting Safety and Productivity” Multimodal
Educational Symposium. Invited speaker.
National Transportation Safety Board and NASA Ames Research Center

1995 Neurology Grand Rounds
Emory University School of Medicine, Atlanta GA

1995 Invited Speaker.
Air Force Office of Scientific Research Headquarters

1995 Invited Speaker.
Merck Pharmaceutical

1995 Invited Speaker.
American Physiological Society, Dartmouth

1995 Invited Speaker.
Aerospace Medical Association

1995 Invited Speaker.
National Foundation for Brain Research

1995 Invited Speaker.
New England Science Writers Association

1995 Invited Speaker.
Association of Professional Sleep Societies

1995 “Meet the Professor”
Association of Professional Sleep Societies

Between 1994-1996 NASA Workshop on Aging and Spaceflight. Invited Speaker.

1997-2001 National Institute on Aging, Bethesda MD
Between Plenary session speaker.

1997-2001 International Conference on Managing Fatigue in Transportation
Between Systems Physiology Workshop. Invited Speaker.

1997-2001 National Research Council, National Academy of Sciences
Between Invited Speaker.

1997-2001 National Space Biomedical Research Institute
Between Invited Speaker.

1997-2001 Federal Transit Administration, Department of Transportation
Between Invited Speaker.

1997-2001 Johnson Space Center, National Aeronautics and Space Administration
Between Invited Speaker.

1997-2001 Charleston Air Force Base, Air Force Office of Scientific Research
Between Invited Speaker (2 symposia)

1997-2001 Society for Research on Biological Rhythms
Between Invited Speaker.

1997-2001 Recent Progress in Hormone Research Conference, The Endocrine Society
Between Invited Speaker.

1997-2001 Cephalon, Inc.
Between Workshop Speaker.

1997-2001 American Physiological Society
Between Symposium Speaker.

1997-2001 Society for Neuroscience
Between Workshop Speaker.

1997-2001 Society for Research on Biological Rhythms
Between Workshop Speaker.

1997-2001 American Academy of Sleep Medicine
Between Keynote Speaker.

1997-2001 Committee of Interns and Residents
Between Invited Speaker.

1997-2001 Biological Effects of Light Symposium
Between Faculty Guest Lecturer. Symposium chair

1997-2001 Gordon Conference on Chronobiology
Between Faculty Guest Lecturer.

1997-2001 Gordon Conference on Pineal Physiology
Between Postgraduate CME Course. Faculty Guest Lecturer.

1997-2001 American Medical Association, American Academy of Sleep Medicine.
Between Medicine Conference on Sleep, Fatigue and Medical Training. Faculty Guest Lecturer.

1997-2001 Virginia
Between Keynote speaker

1997-2001 Association of Professional Sleep Societies
Between Faculty Guest Lecturer. "Meet the Professor"

1997-2001 Associated Professional Sleep Societies
Between Postgraduate CME Course. Faculty Guest Lecturer and course organizer.

1997-2001 Associated Professional Sleep Societies
Between Keynote Speaker.

2002-2008 Society for Research on Biological Rhythms Annual Meeting
Between Invited Speaker.

2002-2008 Association for Patient Oriented Research
Between Neurology Grand Rounds

2002-2008 Johns Hopkins University School of Medicine, Baltimore, MD
Between Invited Speaker.

2002-2008 Vanda Pharmaceuticals, Rockville, MD
Between Invited Speaker.

2002-2008 Association of American Medical Colleges, Washington, DC
Between Invited Speaker.

2002-2008 Accreditation Council of Graduate Medical Education Annual Education Conference,
Chicago IL
Between Invited Speaker.

2002-2008 Institute of Life Sciences: Sleep, Energy and Health Symposium, Washington, DC
Between Invited Speaker.

2002-2008 Institute for Systems Biology, Seattle WA
Between Invited Speaker.

2002-2008 Neurocrine Biosciences
Between Faculty guest lecturer

2002-2008 Neurocrine, San Diego CA
Between Trainee Day Speaker.

2002-2008 Association of Professional Sleep Societies
Between Postgraduate CME “Year in Review”
Lecturer “Insomnia and Beyond”
Lecturer “Shift Work Sleep Disorder”

2002-2008 Associated Professional Sleep Societies Annual Meeting
2004 Invited Speaker.
Bioterrorism and Trauma Conference, University of Maryland, Baltimore MD

2004 Invited Speaker. National Sleep Conference
National Center for Sleep Disorders research, National Heart, Lung and Blood Institute,
NIH, Bethesda, MD

2005 Semi-Annual Joint Grand Rounds in Surgery and Anesthesia and Pfizer Lecturer in Sleep
University of Michigan Health Systems, Ann Arbor MI

2005 Invited Symposium Speaker.
Society of Critical Care Medicine, Phoenix, AZ

2005 Invited Speaker, Trainee Symposium.
Sleep Research Society, Denver, CO

2005 Keynote Speaker.
Annual Meeting, Committee of Interns & Residents, Washington, DC

2005 Gordon Wilson Lecture: “Work Hours, Sleep And Patient Safety In Residency Training”
Annual Meeting, American Clinical and Climatological Association

2006 Invited Speaker.
American Academy of Allergy, Asthma and Immunology Program Directors’ Winter
Meeting

2006 Symposium Speaker
Annual Meeting, Association of University Anesthesiologists, Tucson AZ

2006 Clinical Grand Rounds
National Institutes of Health, Bethesda MD

2006 Psychiatry Grand Rounds.
Dartmouth Medical School, Lebanon, NH

2006 Beckwith Family Lecture. Medical Grand Rounds.
Brown University, Providence, Rhode Island

2006 Faculty Guest Lecturer.
University of Virginia Medical School

- 2006 Faculty Guest Lecturer.
University of Pennsylvania, PA
- 2006 Grand Rounds.
National Institutes of Health, Bethesda MD
- 2006 Faculty Guest Lecturer.
Center for Patient Safety Research and Practice, Executive Council Meeting, Boston, MA
- 2007 “Sleep Deprivation and Fire/Emergency Services— Just How Dangerous Is It?” Invited Speaker
U.S. Fire Administration (USFA) Executive Fire Officer Program Graduate Symposium, Emmitsburg, MD
- 2007 Dorcas Cummings Lecture “Work Hours, Sleep and Safety: Physician Heal Thyself”
Invited Symposium Speaker “Human Circadian Rhythms”
72nd Symposium: Clocks and Rhythms, Cold Spring Harbor Laboratory, NY
- 2007 “Effects of Extended Work Hours on Intern Safety and Health and Medical Mistakes”.
Invited Speaker
Office of the Director Seminar Series, National Institute for Occupational Safety and Health
- 2007 WALIS Invited lecture: “Application of Sleep Science and Circadian Biology to Clinical Medicine”.
National Institutes of Health, Bethesda MD
- 2007 “Impact of Sleep Deprivation on Clinical Care”
Duke University Medical Center, NC
- 2007 Invited Panelist “The Basics. Science & Society Issues. What we think we know about sleep. A clinical primer” and “Influences of Sleep Behavior - from Genes to Environment. Functional Genomics. Drugs. Light. Sleep apnea”
The Science Network at the Salk Institute, CA
- 2007 Human Research Program Investigators' Workshop
NASA, League City TX
- 2007 “Circadian Rhythms, Sleep and Work Hours: Ethical Implications for Health Care Workers”
Morehouse School of Medicine, Atlanta, GA
- 2007 “Circadian rhythm sleep disorders”
Neurobiology of Disease Workshop, Society for Neuroscience, CA
- 2007 Invited Speaker, Trainee Symposium.
Sleep Research Society, Minneapolis, MN
- 2008 Invited Symposium Speaker: “Human Circadian Rhythms”
and “Meet the Professor”
Society for Research on Biological Rhythms Annual Meeting, Destin FL
- 2008 Postgraduate Course: “Creating a Division of Sleep Medicine”
Trainee day speaker: “Public Health and Sleep”
Invited lecturer: “Sleep and circadian rhythms in humans: Tales of translation from the lab to practice”
Association of Professional Sleep Societies Annual Meeting, Baltimore MD
- 2008 Keynote Speaker “Sleep and Public Policy”
9th Annual Upper Midwest Sleep Society, University of Wisconsin, Madison WI
- 2008 Invited Speaker: “Genetic vulnerability to neurocognitive dysfunction from sleep loss: An ethical dilemma for the medical profession”
American Clinical and Climatological Association Annual Meeting, Ponte Verde FL
- 2008 Invited Speaker: “Duty Hours and Sleep Deprivation: When Will the Residents Learn?”
Association of Professors of Medicine Fall Symposium, Florida

- 2009 Invited Speaker: “Work, Sleep Hours and Patient Safety”
Society for Obstetric Anesthesia and Perinatology, 41st Annual Meeting, Washington DC
- 2009 Invited Speaker Trainee Symposium “Public Health and Sleep”
Association of Professional Sleep Societies Annual Meeting, Seattle WA
- 2009 Medicine Grand Rounds
University of Washington, Seattle, WA
- 2009 Guest Faculty: “Medical and Genetic Differences in the Adverse Impact of Sleep Loss on
Performance: Ethical Considerations for the Medical Profession”
GME Institutional Lecture Series, University of Virginia, Charlottesville, VA
- 2010 Invited Speaker: “The human circadian rhythm”
Nocturnal Frontal Lobe Epilepsy [sponsored by Alliance for Epilepsy Research and the
Office of Rare Diseases Research at the NIH] Sanibel Island, FL
- 2010 Keynote address: “Neurobiology of the Human Circadian Pacemaker of its Role in the
Regulation of Sleep”
MSTP program (MD-PhD), Duke University School of Medicine, Durham, NC
- 2010 Organizer & Speaker: “Circadian Rhythm Disorders”
Circadian Rhythms and Metabolic Disease workshop, NIDDK/NIH, Bethesda, MD
- 2010 “Meet the Professor”
Society for Research on Biological Rhythms Annual Meeting, Destin FL
- 2010 Meet the Professor: “Resetting the human circadian pacemaker with light”
Association of Professional Sleep Societies Annual Meeting, San Antonio, TX
- 2010 Invited Speaker: “Regulation of sleep in humans”
Sackler Colloquium - Quantification of Behavior, National Academy of Sciences,
Washington, DC
- 2010 Conference Co-chair “Shift work and sleep: Optimizing health, safety and performance”
American College of Occupational and Environmental Medicine (ACOEM) and NIH,
Arlington, VA [Sponsored by Cephalon, Inc.]
- 2011 Invited Speaker “Light, Sleep, and Circadian Regulation of the Pineal Hormone
Melatonin”
Endocrine Research Seminar, University of Chicago, Chicago, IL
- 2011 Invited Speaker “Resident Physician Work Hours, Patient Safety, and Occupational
Health: Striking a Balance”
Medicine Grand Rounds, University of Chicago, Chicago, IL
- 2011 Conference Co-chair “Sleep Health and Safety” and Speaker
National Sleep Foundation (NSF), Washington DC
- 2011 Keynote Speaker “The Impact of Sleep Deprivation & Shift Work on Medical Errors”
North East Sleep Society, Newport RI
- 2011 Session Chair “Circadian Adaptation to Martian Sol Panel” and Invited Speaker “Near-24-
hour Intrinsic Period of the Human Circadian Pacemaker: Challenge for Adaptation to the
Martian Sol”
18th IAA Humans in Space Symposium, Houston TX
- 2011 Invited Neonatology Lecture “Circadian Rhythms, Development and Neonatal Intensive
Care”
University of Colorado, Denver CO
- 2011 Pediatric Grand Rounds “Optimizing Physician Work Hours and Sleep to Improve Patient
Safety and Occupational Health”
University of Colorado, Denver CO
- 2011 Session Chair “Sleep and Memory in Normal Aging” and Invited Speaker “Age-related
changes in sleep organization”
Sleep in Aging and Dementias Meeting, NIA, Bethesda MD

- 2011 Invited Program Speaker “Changing the game: Using circadian bio-markers in clinical medicine”
Minneapolis, MN [Sponsored by Philips/Respironics]
- 2011 Invited Speaker, Discussion Panel “Sleep Science and the Law: The Legal State of Mind of Drowsy and Sleeping Parties in Legal Proceedings”
Association of Professional Sleep Societies Annual Meeting, Minneapolis MN
- 2011 Chair, Discussion Panel “The National Institutes of Health Sleep Research Plan (2011)”
Association of Professional Sleep Societies Annual Meeting, Minneapolis MN
- 2011 Invited Speaker, Advisory Committee” Addressing Obstructive Sleep Apnea In CMV Drivers”
Federal Motor Carrier Safety Administration, Alexandria VA
- 2012 Invited Speaker, Sleeplessness Panel
WME Entertainment, San Diego CA
- 2012 Invited Speaker, Ethics Debate: Sleep Deprived Surgeons Should Not be Allowed to Operate Without Patients’ Consent
Society of Thoracic Surgeons, Fort Lauderdale FL
- 2012 Invited Speaker; Sleep Health & Safety Conference
National Sleep Foundation, Washington DC
- 2012 Invited Speaker
NSBRI Board of Directors, Houston TX
- 2012 Panelist “The City Dark”
AAAS, New York City, NY
- 2012 Meet the Professor
Society for Research on Biological Rhythms, Destin FL
- 2012 Speaker, Discussion Panel “Measuring Sleepiness in Drivers: The Challenges and Controversies”
Association of Professional Sleep Societies Annual Meeting, Boston MA
- 2012 Invited Speaker “Body Mass Index is an Effective Measure for Occupational Screening of Employees at High Risk for Moderate to Severe Obstructive Sleep Apnea: Implications for DOT Commercial Driver Medical Examinations”
Association of Professional Sleep Societies Annual Meeting, Boston MA
- 2012 Invited Speaker “Sleepless in Seattle (and Elsewhere): Women and the Need for Quality Sleep”
AWHONN (Association of Women's Health, Obstetric and Neonatal Nurses), Annual Meeting, National Harbor MD
- 2013 Invited Speaker “Light as a countermeasure for circadian rhythms, sleep, alertness, performance, mood, endocrine and other physiologic factors” and “Effects of sleep and sleep deprivation on brain and behavior”
NSBRI inter-team meeting “Effects of Long Duration Spaceflight on Brain and Behavior”, Houston TX
- 2013 Invited Speaker “Prevalence and Consequences of Sleep Disorders among American Law Enforcement Officers”
National Sleep Foundation Sleep Health & Safety Conference, Washington DC
- 2013 Invited Speaker “The Sleep Gap: Why is it growing?”
Science in Medicine Annual Lecturer, University of Washington, Seattle WA
- 2013 Faculty Speaker – Postgraduate Course “Basic and Translational Circadian Science for the Clinician and Trainee”
Association of Professional Sleep Societies Annual Meeting, Baltimore MD
- 2013 Speaker – Discussion Group “Advancing Sleep and Circadian Rhythms Research”
Association of Professional Sleep Societies Annual Meeting, Baltimore MD

- 2013 Chair and Speaker “State of the Art Symposium on Drowsy Driving: Impact of Sleep Deficiency on Real Motor Vehicle Driving Performance and Perception of Drowsiness”
Association of Professional Sleep Societies Annual Meeting, Baltimore MD
- 2013 Invited Speaker “Genetics of Neurobehavioral Functions during the 12-Month ISS Mission (ISS12): Capitalizing on Discoveries in Circadian, Sleep and Stress Neurobiology”
NASA, Houston TX
- 2013 Invited Special Lecture “Interacting Influence of Sleep and Circadian Clocks on Human Physiology and Cognitive Performance”
Society for Neuroscience Annual Conference, San Diego CA
- 2014 Faculty Speaker - Emerging Clinical and Business Trends in Sleep Medicine Course.
“Sleep and Anesthesia: Are They One in the Same?” and “The Role of Circadian Rhythms in Pilots Who Navigate Across Time Zones”
American Academy of Sleep Medicine, Phoenix AZ
- 2014 Invited Speaker “Shift Work and Its Effects on Healthcare Workers”
Symposium entitled ‘The Impact of Circadian Disruption on Shift Workers: Healthcare and Disease’, Montefiore Medical Center, Bronx NY
- 2014 Invited Speaker – Workshop “Funding outside the NIH”
Association of Professional Sleep Societies Annual Meeting, Minneapolis MN
- 2014 Speaker – Discussion Group “Stone soup: Leveraging research resources and opportunities”
Association of Professional Sleep Societies Annual Meeting, Minneapolis MN
- 2014 Meet the Professor
Association of Professional Sleep Societies Annual Meeting, Minneapolis MN
- 2014 Speaker – Workshop “Clocks in the Clinic: Should we have Chronobiology Clinics?”
Society for Research on Biological Rhythms Biennial Meeting, Big Sky MT
- 2014 Meet the Professor
Society for Research on Biological Rhythms Biennial Meeting, Big Sky MT
- 2014 Invited Presenter “Sleep and Circadian Rhythms in Spaceflight - a review”
Special Workshop on ‘Sleep on Earth and in Space: Risk Factors, Health & Performance Outcomes, and Countermeasures’, NASA/NSBRI, Houston TX
- 2014 Invited Speaker “Sleep, Health and Safety of First Responders”
National Sleep Foundation Sleep Health & Safety Conference, Washington DC
- 2015 Advocate, Sleep Leadership Summit
National Sleep Foundation, Washington DC
- 2015 Invited Speaker “Teasing apart the impact of prior exposure to recurrent circadian disruption and chronic sleep restriction on pancreatic β -cell responsiveness”
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), Workshop on “Impact of Sleep and Circadian Disruption on Energy Balance and Diabetes”, Bethesda MD
- 2015 Invited Faculty “Sleep, Circadian Rhythms, and Performance”
Stanford University School of Medicine/National Sleep Foundation, CME course “Managing Sleep Health in the Primary Care Setting”, Stanford CA
- 2015 Speaker “Irregular Sleep In College Students: Consequences For Sleep Consolidation Circadian Rhythms And Performance”
Association of Professional Sleep Societies Annual Meeting, Seattle WA
- 2015 Invited Speaker “The A to ZZZs of Sleep”
Robb Report Health and Wellness Summit, Park City UT
- 2015 Invited Panelist “Sleep for Performance, Safety and Health”
Office of Naval Research workshop ‘Restorative Sleep’, Arlington VA
- 2015 Invited Speaker “Interactive Effects of Sleep and Circadian Rhythms on the Performance,

- Safety and Health: Implications for the Military”
The WRAIR Distinguished Speakers Seminar Program, Walter Reed Army Institute of Research, Silver Spring MD
- 2015 Invited Speaker “Circadian Rhythm Disorders”
Vermont and New Hampshire Society for Respiratory Care, Annual Meeting, Meredith NH
- 2015 Invited Panelist “Digital Media and Psychological/Emotional/Physical Development in Adolescents”
Arthur M. Sackler Colloquium Digital Media and Developing Minds, Irvine CA
- 2015 Invited Speaker “Balancing the Needs for Research and Action”
National Highway Traffic Safety Administration (NHTSA) Drowsy Driving Forum, Washington DC
- 2015 Invited Speaker “Drowsy Driving Overview: Data, Measurement & Contributing Factors”
Sleep Health and Safety Conference, National Sleep Foundation (NSF), Washington DC
- 2015 Invited Speaker “Impact of Circadian Rhythms on Sleep and Sleep Disorders”
Sleep Summit: Advanced Topics in Narcolepsy and OSA, Sponsored by Jazz Pharmaceuticals, Palo Alto CA
- 2016 Keynote Speaker “Sleep Deficiency and Motor Vehicle Crashes”
Maryland Sleep Society Seventh Annual Scientific Meeting, Baltimore MD
- 2016 Speaker – Symposium “Effects of light on human circadian rhythms”
Society for Research on Biological Rhythms Biennial Meeting, Tampa FL
- 2016 Speaker “Brigham and Women's Hospital Presents: Living Better Longer - The Science Behind Healthy Aging”
BWH Spotlight Health at Aspen Ideas Festival, Aspen CO
- 2016 Invited Speaker “The Secrets of Sleep”
Robb Report Health and Wellness Summit, Park City UT
- 2016 Invited Panelist “How Sleep Can Improve Your Bottom Line”
National Sleep Foundation Sleep Works Summit, Washington DC
- 2017 Invited Panelist “Mini Symposium in Circadian Rhythms”
Hawaii Sleep Health and Wellness Foundation's Conference
- 2017 Invited Speaker “Circadian Clocks, Sleep and Health”
UC San Diego Circadian Biology Symposium, San Diego CA
- 2017 Invited Speaker “Sleep Regulation in Humans”
Invited Speaker University of Washington Graduate Program in Neuroscience, Seattle WA
- 2017 Invited Speaker “Deficient Sleep in Teens: The Consequences. Impact on Health”
Adolescent Sleep, Health, and School Start Times, Washington DC
- 2017 Invited Speaker “OSA and Trains, Planes and Automobiles”
American Academy of Dental Sleep Medicine Annual Meeting, Boston MA
- 2017 Speaker “The Global Council on Brain Health Consensus Statement and Recommendations for Maintaining Healthy Sleep for Brain Health”
Association of Professional Sleep Societies Annual Meeting, Boston MA
- 2017 Invited Speaker “Chronobiology, Circadian Rhythms, and Sleep: Clinical and Advanced Translational Findings DoD State of the Science Summit Pathophysiology of PTSD: Rethinking Drug Targets
- 2017 Speaker “Brigham and Women's Hospital Presents: Vulnerabilities and Resiliency across the Life Span: The Brain”
BWH Spotlight Health at Aspen Ideas Festival, Aspen CO
- 2017 Invited Speaker “Sleep and Fatigue Effect on Performance”
Special Operations Forces (SOF) Performance Nutrition Summit, Fort Bragg NC
- 2017 Invited Speaker for 4 talks:

- 1: Sleep Medications and Athletic Performance
 - 2: Circadian Effect on Sports Performance
 - 3: Sleep and Fatigue Management in the Workplace: Jet lag & Travel Fatigue for Business Management
 - 4: Panel Discussion: Going Without Sleep is Nothing to Brag About
- Alaska Sleep Conference, Anchorage AK *sponsored by Ganesco*
- 2017 Invited Speaker “Fatigue in our heroes: Addressing fatigue risk in first responders story”
National Safety Council Annual Meeting, Indianapolis IN
- 2018 Invited Speaker “Circadian clock regulation of sleep and wakefulness in humans”
Salk/Foundation Ipsen/Science Symposium on Biological Complexity: Biology of Time (Circadian, Lunar and Seasonal Rhythms), La Jolla CA
- 2018 Invited speaker for colloquium on “Sleep, Chronic Fatigue and Autoimmune Disease”
AARDA (American Autoimmune Related Disease Association), Washington DC
- 2018 Invited Speaker for IES 2018 Research Symposium Light + Human Health
IES (Illuminating Engineering Society), Atlanta GA
- 2018 Invited Speaker “Sleep and Circadian Rhythms: Impact on Performance, Health and Safety of U.S. Navy and Marine Corps Personnel”
Office of Naval Research (ONR) Distinguished Lecture Series, Arlington VA
- 2018 Invited Speaker “Guidelines of OSA Management in Commercial Motor Vehicle Operators”
American Academy of Dental Sleep Medicine Annual Meeting, Baltimore MD
- 2018 Speaker “Is sleeping long bad for you”
Association of Professional Sleep Societies Annual Meeting, Baltimore MD
- 2018 Invited Speaker “Sleep Timing Variability Consensus Panel”
National Sleep Foundation Sleep Health Forum, Association of Professional Sleep Societies Annual Meeting, Baltimore MD
- 2018 Invited Speaker “The Sleep Deprived Brain’s Influence on Aging”
6th Annual AspenBrainLab, Aspen Brain Institute, Aspen CO
- 2018 Expert Panelist for Drowsy Driving Attitudes, Knowledge, and Behavior Project.
NHTSA, Washington DC
- 2018 Invited Panel Speaker, SRS Regulatory Meeting

International

- 1976 Invited Speaker.
Max-Planck-Institut für Verhaltensphysiologie, Erling-Andechs, Germany
- Between 1976-1980 Invited Speaker.
3rd International Congress of Sleep Research, Tokyo
- Between 1981-1984 Invited Speaker.
International Union of Physiological Sciences, Budapest
- Between 1981-1984 Invited Speaker.
International Workshop on Sleep/wake disorders: natural history, epidemiology and long-term evolution, Ravenna, Italy
- 1984 Invited Speaker. Symposium on Biological Rhythms.
International Congress on Neuroreceptor Mechanisms in Human Disease, Fondazione Internazionale Menarini, Florence, Italy
- 1986 “Effects of automation on operator performance”. Invited Speaker
Commission of the European Communities, Université René Descartes, Paris, France
- 1987 Invited Speaker.
5th International Congress of Sleep Research, Copenhagen, Denmark

- 1987 Invited Speaker.
German Institute for Aerospace Medicine, Köln, Germany
- 1987 Invited Speaker.
International Conference on Chronobiology, Leiden, Netherlands
- 1987 Invited Speaker.
NATO Defense Research Group Seminar on Sleep and its Implications for the Military,
Lyon, France
- 1988 Invited Speaker.
European Congress of Sleep Research, Jerusalem
- 1988 Invited Speaker.
Workshop on Polyphasic and Ultrashort Sleep-Wake Patterns, Tuscany, Italy
- 1988 Invited Speaker.
Institute of Pharmacology, University of Zurich, Zurich, Switzerland
- 1988 Invited Speaker.
Tenth International Symposium, Center of Research on Neurological Sciences, University
of Montreal, Quebec, Canada
- 1989 “Mechanisms in the timing of sleep: Consequences for depression research”. Invited
Speaker.
University of Groningen 375th Anniversary Symposium, Netherlands
- 1989 “Cardiovascular and Nervous System Effects of Ovarian Secretions”. Invited Speaker.
Serono Symposium, Dubrovnik, Croatia
- 1989 Invited Speaker.
2nd Milano International Symposium on Sleep, Milan, Italy
- 1989-1990 Faculty research sponsor; Research Elective 1 medical student; ~15 hours/year
Philipps University, Marburg, Germany
- 1992-1994 Faculty research sponsor; Research Elective 1 medical student; ~15 hours/year
Medical School of the Technical University of Munich, Munich, Germany
- 1998-2003 Co-Mentor, Doctoral Student in Pharmacology
Swiss Federal Institute of Technology, Zurich, Switzerland
- 1990 Invited Speaker
17th Congress, Collegium Internationale Neuro-Psychopharmacologicum, Kyoto, Japan
- 1990 Invited Speaker
American Society for Photobiology, Vancouver, British Columbia, Canada
- 1990 Invited Speaker
Workshop on Psychophysiological Measures in Transport Operations, Commission of the
European Communities, Paris, France
- 1990 Invited Speaker
Japan Institute for the Science of Labor, Tokyo, Japan
- 1990 Invited Speaker
National Institute of Health Services and the Central Health Institution, Tokyo, Japan
- 1991 Invited Symposium Speaker/Co-Chairperson: “Endocrine and Metabolic Correlates of
Sleep and Wakefulness in Humans”
Invited Workshop Speaker: “Constant Routines”
World Federation of Sleep Research Societies, Cannes, France
- 1991 Invited Speaker
Study Group on Circadian Rhythms, Fondation pour L'Etude du Systeme Nerveux et
Peripherique, Geneva, Switzerland
- 1991 Invited Speaker
Gordon Research Conference on Chronobiology, Irsee, Germany
- 1991 Invited Speaker

1992 Workshop on Concepts and Models of Sleep Regulation, Zurich, Switzerland
Keynote Speaker
International Brain Research Organization-Suisse, Zurich, Switzerland

1994 Invited Speaker
International Conference on Work Hours, Sleepiness and Accidents Karolinska Institute,
Stockholm, Sweden.

Between
1994-1996 Invited Speaker
Ciba Foundation Symposium, London, United Kingdom

1995 Invited Speaker
World Federation of Sleep Research Societies, Bahamas

1996 Invited Speaker
Japanese Society for Sleep Research, Sapporo, Japan

1996 Invited Speaker
International Workshop on Circadian Light Reception and Regulation, Lyon, France

Between
1997-2001 Invited Speaker
International Conference on Managing Fatigue in Transportation, Karolinska Institute,
Stockholm, Sweden

Between
1997-2001 Workshop chair and Trainee Day speaker
Third International Congress, World Federation of Sleep Research Societies, Dresden,
FRG

2002 Symposium co-chair and Invited Speaker
American Society for Photobiology, Quebec City, Canada

Between
2002-2008 Invited Speaker
1st International Conference on Circadian Rhythms, Sleep and Cognition, Toronto, Canada

2003 Plenary Speaker
World Congress on Chronobiology, Sapporo, Japan

2003 Invited Speaker. Autumn School “Circadian Rhythms”
Institute of Biology, Humboldt-University, Charité Hospital, Berlin, Germany

2003 Invited Speaker
British Medical Association, London, United Kingdom

2003 Invited Speaker
Gordon Research Conference on Chronobiology, Barga, Italy

2003 Invited Speaker
Launch Event, Surrey Sleep Research Centre, Guildford, England

2004 Invited Speaker
Spark Workshop, Unilever, United Kingdom

2004 Invited Speaker
2nd Annual Sleep Disorders Forum, Sanofi Synthelabo, Paris, France

2005 Plenary Address
X International Congress, Brazilian Sleep Research Society, Curitiba, Brazil

2005 Plenary Speaker
New Zealand Resident Doctors Association Professional Conference on Safer Working
Hours in Medicine, Auckland, New Zealand

2006 Distinguished Leader in Medicine Lecture “Work Hours, Health and Safety in the Medical
Profession”
Dalhousie University, Halifax, Canada

2007 Invited Speaker “The neurobiology of the human circadian pacemaker, and medical
education in the United States”
Osaka University, Japan

- 2007 Invited Speaker “"Neurobiology of the human circadian pacemaker and Sleep Regulation" & "Establishing Divisions of Sleep Medicine at the Harvard Medical School: Fostering education, patient care and research"
University of Tsukuba, Japan
- 2007 Invited Speaker. “Recent advances of sleep medicine for work safety”
Tokyo Electric Power Company, Japan
- 2007 Invited Speaker “Clinical trial of the efficacy of Modafinil in the treatment of shift work sleep disorder”
Japanese Sleep Research Society, Japan
- 2007 Invited Speaker “Sleep loss and sleep disorders: Public health impact”
Monash University, Melbourne, Australia
- 2007 Invited Speaker “Safe working hours and Fatigue”
and Panelist “Different perspectives on the health industry workforce”
University of Sydney, Australia
- 2007 Invited Speaker “Influence of Internal Circadian Phase on Excessive Sleepiness and Behavioral Alertness in Patients with Shift-Work Sleep Disorder (SWSD)”
18th International Symposium on Shiftwork and Working Time, Yeppoon, Australia
- 2007 Plenary Speaker “Sleep Medicine in the 21st Century”
5th Congress of the World Federation of Sleep Research and Sleep Medicine Societies, Cairns, Australia
- 2007 Invited Speaker “Sleep Medicine and Education”
University of Zurich, Switzerland
- 2007 Invited Speaker “24 Hour Society and Work; an Update on Better Shift Work”
Harvard Medical School Dubai Center Institute for Postgraduate Education & Research, Dubai, UAE
- 2008 Invited Speaker “Sleep, work, productivity and safety”
6th International Sleep Disorders Forum, Toronto, Canada
- 2010 Symposium Co-chair “Sleep in unusual and extreme environments”
20th Meeting of the European Sleep Research Society, Lisbon, Portugal
- 2010 Invited Speaker “Sleep deficiency, drowsiness and circadian dysregulation: assessment, consequences and treatment approaches”
Decade of the Mind Conference, Singapore
- 2010 Invited Speaker
Astronaut Center of China, Beijing, China
- 2011 Invited Speaker “Regulation of sleepiness: the importance of light, circadian rhythms, and homeostasis”
Stress Research Institute, University of Stockholm: Working Time Society; Satellite Symposium ‘The Sleepy Brain’, Stockholm, Sweden
- 2011 Invited Speaker “Fatigue risk management in transport”
Working Time Society; 20th International Symposium on Shiftwork and Working Time
- 2011 Keynote Speaker “Sleep and Work Schedules in Modern Society”
World Association of Sleep Medicine, Quebec City, Canada
- 2011 Invited Educational Lecture “Circadian Rhythms, Human, Sleep & Wake”
6th World Congress of the World Sleep Federation, Kyoto, Japan
- 2011 Invited Speaker “Sleep in Space”
JAXA Symposium, Kyoto, Japan
- 2011 Invited Speaker
Satellite Meeting ‘Translational Sleep Research - From animal research to human study’, Kyoto, Japan
- 2011 Invited Public Lecture

- 2011 Kyoto, Japan
Invited Speaker
International Symposium on Photonic Bioimaging and Satellite Symposium of WorldSleep
2011 on Human Circadian Clock: the 50th anniversary of temporal isolation study,
Sapporo, Japan
- 2011 Invited Speaker
Board of Directors Meeting, Canadian Association of Internes & Residents, Ottawa ON
(remote presentation)
- 2012 Invited Speaker “Human circadian rhythms: Impact on sleep and cognition”
Seminar in Neuroscience, Biocentre in Basel, Basel, Switzerland
- 2012 Invited Speaker “Shift work, circadian rhythms, health and performance” & “Work hours,
sleep and patient safety in medicine”
International Postgraduate Course “The Risk of Fatigue”, University Hospital, Basel,
Switzerland
- 2013 Invited Speaker
“Non-visual Forum, University of Manchester, Manchester, United Kingdom
- 2013 Invited Speaker “Pathophysiology of Drowsy Driving: Impact of Circadian Rhythms,
Sleep Deficiency and Shift Work”
Excessive Daytime Sleepiness, Work and Road Safety Conference, University of Bologna,
Bologna, Italy
- 2013 Invited Speaker – Special Lecture “Role of Sleep Medicine and Chronobiology for
Optimizing Productivity, Safety and Health in the Workplace”
86th Annual Meeting of the Japan Society for Occupational Health, Matsuyama City,
Japan (remote presentation)
- 2014 Discussion Leader in three sessions (1) ‘Rethinking Health’, (2) ‘Do-it-yourself Health’
and (3) ‘From Hyper to Healthy’
World Economic Forum, Annual Meeting 2014, Davos-Klosters, Switzerland
- 2014 Invited Lecture
University of Bordeaux, Bordeaux, France.
- 2016 Invited Speaker
Zurich Global Risk Management Summit, Cannes, France
- 2016 Invited Lecture “Non-24-Hour Disorder: History, Pathophysiology and Clinical
Assessment”
Annual Congress of the German Sleep Society (DGSM), Dresden Germany
- 2017 Plenary Speaker, “Impact of Artificial Light on Entrainment of the Human Circadian”
Annual Congress, European Biological Rhythms Society (EBRS), Amsterdam Netherlands
- 2018 Keynote Lecture “Sleep and Health: A Clinical Research Priority”
Zurich Sleep Medicine Symposium 2018 / International Symposium of the CRPP Sleep &
Health, University of Zürich, Zürich, Germany
- 2018 Invited Faculty
“The Role of Circadian Biology in Preventing and Treating Pathology”
Ludwig-Maximilians-University of Munich, Germany

Report of Clinical Activities and Innovations

Current Licensure and Certification

- 1982- Diplomat, American Board of Sleep Medicine

Report of Technological and Other Scientific Innovations

Assessment and Modification of a Subject's Endogenous Circadian Cycle.	Czeisler CA, Kronauer RE, Allan JS. Assignee: Brigham and Women's Hospital. Patent Number 612182. Issue Date: 10/25/91; Country: Australia.
Test for Evaluation of Visual Functioning in Visually Impaired Subjects.	Czeisler CA, Martens H, Shanahan TL. Assignee: Brigham and Women's Hospital. Patent Number 5,146,927. Issue Date: 9/15/92; Country: U.S.
Assessment and Modification of a Subject's Endogenous Circadian Cycle.	Czeisler CA, Kronauer RE, Allan JS. Assignee: Brigham and Women's Hospital. Patent Number 5,163,426. Issue Date: 11/17/92; Country: U.S.
Assessment and Modification of Endogenous Circadian Phase and Amplitude.	Czeisler CA, Kronauer RE, Allan JS. Assignee: Brigham and Women's Hospital. Patent Number 5,167,228. Issue Date: 12/1/92; Country: U.S.
Assessment and Modification of Circadian Phase and Amplitude.	Czeisler CA, Kronauer RE, Allan JS. Assignee: Brigham and Women's Hospital. Patent Number 5,176,133. Issue Date: 1/5/93; Country: U.S.
Assessment and Modification of a Subject's Endogenous Circadian Cycle.	Czeisler CA, Kronauer RE, Allan JS. Assignee: Brigham and Women's Hospital. Patent Number 1327630. Issue Date: 3/8/94; Country: Canada.
Assessment and Modification of a Human Subject's Circadian Cycle.	Czeisler CA, Kronauer RE, Allan JS. Assignee: Brigham and Women's Hospital. Patent Number 5,304,212. Issue Date: 4/19/94; Country: U.S.
Apparatus for Producing and Delivering High-Intensity Light to a Subject.	Czeisler CA, Kronauer RE, Kyricos CJ. Assignee: Brigham and Women's Hospital and Light Sciences, Inc. Patent Number 5,503,637. Issue Date: 4/2/96; Country: U.S.
Intermittent Use of Bright Light to Modify the Circadian Phase.	Czeisler CA, Kronauer RE. Assignee: Brigham and Women's Hospital. Patent Number 5,545,192. Issue Date: 8/13/96; Country: U.S.
Method of Facilitating the Physiological Adaption to an Activity/Rest Schedule and	Czeisler CA, Kronauer RE, Allan JS. Assignee: Brigham and Women's Hospital. Patent Number 363440. Issue Date: 5/14/97; Country: Europe (Recorded in Austria, Belgium, France, Germany, Italy, Luxembourg, Netherlands, Sweden, Switzerland, Liechtenstein & Great Britain).

Apparatus for
Prescribing a
Substantially
Optimum Stimulus
Regimen of Pulses of
Bright Light to
Allow a Subject's
Circadian Cycle to be
Modified to a
Desired State.

Method and Device for Modifying the Circadian Cycle in Humans. **Czeisler CA, Kronauer RE, Allan JS.** Assignee: Brigham and Women's Hospital. Patent Number 477282. Issue Date: 5/14/97; Country: Europe (Recorded in Austria, Belgium, Switzerland, Liechtenstein, Germany, Denmark, Spain, France, Great Britain, Italy, Luxembourg, Netherlands & Sweden).

Assessment and Modification of a Subject's Endogenous Circadian Cycle. **Czeisler CA, Kronauer RE, Allan JS.** Assignee: Brigham and Women's Hospital. Patent Number 2739725. Issue Date: 1/24/98; Country: Japan.

Modification of Endogenous Circadian Pacemaker. **Czeisler CA, Kronauer RE, Allan JS.** Assignee: Brigham and Women's Hospital. Patent Number 2928636. Issue Date: 5/14/99; Country: Japan.

Test for evaluation of visual functioning in visually impaired subjects. **Czeisler CA, Martens H, Shanahan TL.** Assignee: Brigham and Women's Hospital. Filing Date: 6/15/92; Country: WO.

Method for modifying or resetting the circadian cycle using short wavelength light. Brainard GC, **Czeisler CA, Kronauer RE, Lockley SW.** Brigham and Women's Hospital. Filing Date: 7/14/04; Country: WO. CA. JP. U.S (util)
Brainard GC, **Czeisler CA, Kronauer RE, Lockley SW.** Brigham and Women's Hospital. Filing Date: 4/25/05; Country: U.S. (pct)

High sensitivity of the human circadian pacemaker to resetting by short wavelength light. Brainard GC, **Czeisler CA, Kronauer RE, Lockley SW.** Brigham and Women's Hospital. Filing Date: 7/14/04; Country: EP

Report of Education of Patients and Service to the Community

Activities

- 2008 Panelist, Discovery Panel, NASA Future Forums. Museum of Science, Boston, MA
http://www.nasa.gov/50th/future_forums/bostonWithGallery.html
- 2011 Invited Speaker "Sleep to Thrive" TEDx Cambridge 'Thrive', Cambridge, MA
<http://www.tedxcambridge.com/thrive/charles-a-czeisler/>
- 2012 Invited Speaker webcast FORUM presentation, Harvard School of Public Health, Boston, MA

“FIGHTING THE CLOCK: How America’s Sleep Deficit is Damaging Long-term Health”
<http://theforum.sph.harvard.edu/events/sleep-deprivation-fighting-the-clock>

2012

Invited Speaker, “The City Dark” AAAS Washington, DC
http://www.aaas.org/news/releases/2012/0531night_sky.shtml

Report of Scholarship

Peer reviewed publications in print or other media

Research Investigations

1. **Czeisler CA**, Moore-Ede MC, Regestein QR, Kisch ES, Fang VS, Ehrlich EN. Episodic 24-hour cortisol secretory patterns in patients awaiting elective cardiac surgery. *J Clin Endocrinol Metab* 1976; 42:273-283. PMID: 1262431
2. Kokkoris CP, Weitzman ED, Pollak CP, Spielman AJ, **Czeisler CA**, Bradlow H. Long term ambulatory temperature monitoring in a subject with a hypnnychthemeral sleep-wake cycle disturbance. *Sleep* 1978; 1:177-190. PMID: 756061
3. **Czeisler CA**, Weitzman ED, Moor e-Ede MC, Zimmerman JC, Knauer RS. Human sleep: its duration and organization depend on its circadian phase. *Science* 1980; 210:1264-1267. PMID: 7434029
4. Lydic R, Schoene WC, **Czeisler CA**, Moore-Ede MC. Suprachiasmatic region of the human hypothalamus: homolog to the primate circadian pacemaker? *Sleep* 1980; 2:355-362. PMID: 6773133
5. **Czeisler CA**, Zimmerman JC, Ronda J, Moore-Ede MC, Weitzman ED. Timing of REM sleep is coupled to the circadian rhythm of body temperature in man. *Sleep* 1980; 2:329-346. PMID: 7403736
6. Weitzman ED, **Czeisler CA**, Zimmerman JC, Ronda JM. Timing of REM and stages 3 + 4 sleep during temporal isolation in man. *Sleep* 1980; 2:391-408. PMID: 7403740
7. Zimmerman JC, **Czeisler CA**, Laxminarayan S, Knauer RS, Weitzman ED. REM density is dissociated from REM sleep timing during free-running sleep episodes. *Sleep* 1980; 2:409-416. PMID: 7403741
8. **Czeisler CA**, Richardson GS, Coleman RM, Zimmerman JC, Moore-Ede MC, Dement WC, Weitzman Ed. Chronotherapy: resetting the circadian clocks of patients with delayed sleep phase insomnia. *Sleep* 1981; 4:1-21. PMID: 7232967
9. Weitzman ED, **Czeisler CA**, Coleman RM, Spielman AJ, Zimmerman JC, Dement WC, Richardson GS, Pollak CP. Delayed sleep phase syndrome: a chronobiological disorder with sleep-onset insomnia. *Archiv Gen Psychiatry* 1981; 38:737-746. PMID: 7247637
10. **Czeisler CA**, Richardson GS, Zimmerman JC, Moore-Ede MC, Weitzman ED. Entrainment of human circadian rhythms by light-dark cycles: a reassessment. *Photochem Photobiol* 1981; 34:239-247. PMID: 7267730
11. Bernstein IL, Zimmerman JC, **Czeisler CA**, Weitzman ED. Meal patterns in free-running humans. *Physiol Behav* 1981; 27:621-623. PMID: 7323164
12. Kronauer RE, **Czeisler CA**, Pilato SF, Moore-Ede MC, Weitzman ED. Mathematical model of the human circadian system with two interacting oscillators. *Am J Physiol* 1982; 242:R3-R17. PMID: 7058927
13. Weitzman ED, Moline ML, **Czeisler CA**, Zimmerman JC. Chronobiology of aging: temperature, sleep-

- wake rhythms and entrainment. *Neurobiol Aging* 1982; 3: 299-309. PMID: 7170047
14. **Czeisler CA**, Moore-Ede MC, Coleman RM. Rotating shift work schedules that disrupt sleep are improved by applying circadian principles. *Science* 1982; 217:460-463. PMID: 7089576
 15. Weitzman ED, Zimmerman JC, **Czeisler CA**, Ronda J. Cortisol secretion is inhibited during sleep in normal man. *J Clin Endocrinol Metab* 1983; 56:352-358. PMID: 6822642
 16. Gander PH, Kronauer RE, **Czeisler CA**, Moore-Ede MC. Simulating the action of zeitgebers on a coupled two-oscillator model of the human circadian system. *Am J Physiol* 1984;247:R418-R426. PMID: 6476142
 17. Gander PH, Kronauer RE, **Czeisler CA**, Moore-Ede MC. Modeling the action of zeitgebers on the human circadian system: comparisons of simulations and data. *Am J Physiol* 1984; 247:R427-R444. PMID: 6476143
 18. Richardson GS, Moore-Ede MC, **Czeisler CA**, Dement WC. Circadian rhythms of sleep and wakefulness in mice: analysis using long-term automated recording of sleep. *Am J Physiol* 1985; 248:R320-R330. PMID: 3838419
 19. Muller JE, Stone PH, Turi ZG, Rutherford JD, **Czeisler CA**, Parker C, Poole WK, Hartwell TD, Scheiner E, Gold HK, Jaffe AS, Raabe DS, Rude RE, Passamani E, Roberts R, Robertson T, Sobel BE, Willerson JT, Braunwald E, and the MILIS study group. Circadian variation in the frequency of onset of acute myocardial infarction. *N Engl J Med* 1985; 313:1315-1322. PMID: 2865677
 20. Strogatz SH, Kronauer RE, **Czeisler CA**. Circadian regulation dominates homeostatic control of sleep length and prior wake length in humans. *Sleep* 1986; 9:353-364. PMID: 3505735
 21. Moline ML, Monk TH, Wagner DR, Pollak CP, Kream J, Fookson JE, Weitzman ED, **Czeisler CA**. Human growth hormone release is decreased during sleep in temporal isolation (free-running). *Chronobiologia* 1986; 13:13-19. PMID: 3720426
 22. Gordon NP, Cleary PD, Parker CE, **Czeisler CA**. The prevalence and health impact of shift work. *Am J Pub Health* 1986; 76:1225-1228. PMID: 3752325; PMCID: PMC1646676.
 23. **Czeisler CA**, Allan JS, Strogatz SH, Ronda JM, Sánchez R, Ríos CD, Freitag WO, Richardson GS, Kronauer RE. Bright light resets the human circadian pacemaker independent of the timing of the sleep-wake cycle. *Science* 1986; 233:667-671. PMID: 3726555
 24. Strogatz SH, Kronauer RE, **Czeisler CA**. Circadian pacemaker interferes with sleep onset at specific times each day: role in insomnia. *Am J Physiol* 1987; 253:R172-R178. PMID: 3605382
 25. Tofler GH, Brezinski D, Schafer AI, **Czeisler CA**, Rutherford JD, Willich SN, Gleason RE, Williams GH, Muller JE. Concurrent morning increase in platelet aggregability and the risk of myocardial infarction and sudden cardiac death. *N Engl J Med* 1987; 316:1514-1518. PMID: 3587281
 26. Brezinski DA, Tofler GH, Muller JE, Pohjola-Sintonen S, Willich SN, Schafer AI, **Czeisler CA**, Williams GH. Morning increase in platelet aggregability: association with assumption of the upright

posture. *Circulation* 1988; 78: 35-40. PMID: 3289790

27. **Czeisler CA**, Kronauer RE, Allan JS, Duffy JF, Jewett ME, Brown EN, Ronda JM. Bright light induction of strong (type 0) resetting of the human circadian pacemaker. *Science* 1989; 244:1328-1333. PMID: 2734611
28. **Czeisler CA**, Johnson MP, Duffy JF, Brown EN, Ronda JM, Kronauer RE. Exposure to bright light and darkness to treat physiologic maladaptation to night work. *N Engl J Med* 1990; 322:1253-1259. PMID: 2325721
29. Jewett ME, Kronauer RE, **Czeisler CA**. Light-induced suppression of endogenous circadian amplitude in humans. *Nature* 1991; 350:59-62. PMID: 2002845
30. Shanahan TL, **Czeisler CA**. Light exposure induces equivalent phase shifts of the endogenous circadian rhythms of circulating plasma melatonin and core body temperature in men. *J Clin Endocrinol Metab* 1991; 73:227-235. PMID: 1856258
31. Johnson MP, Duffy JF, Dijk DJ, Ronda JM, Dyal CM, **Czeisler CA**. Short-term memory, alertness and performance: a reappraisal of their relationship to body temperature. *J Sleep Res* 1992; 1:24-29. PMID: 10607021
32. Brown EN, **Czeisler CA**. The statistical analysis of circadian phase and amplitude in constant-routine core-temperature data. *J Biol Rhythms* 1992; 7:177-202. PMID: 1421473
33. Gold DR, Rogacz S, Bock N, Tosteson TD, Baum TM, Speizer FE, **Czeisler CA**. Rotating shift work, sleep, and accidents related to sleepiness in hospital nurses. *Am J of Public Health* 1992; 82:1011-1014. PMID: 1609900; PMCID: PMC1694075.
34. **Czeisler CA**, Dumont M, Duffy JF, Steinberg JD, Richardson GS, Brown EN, Sánchez R, Ríos CD, Ronda JM. Association of sleep-wake habits in older people with changes in output of circadian pacemaker. *The Lancet* 1992; 340:933-936. PMID: 1357348
35. Klein T, Martens H, Dijk DJ, Kronauer RE, Seely EW, **Czeisler CA**. Chronic non-24-hour circadian rhythm sleep disorder in a blind man with a regular 24-h sleep-wake schedule. *Sleep* 1993; 16:333-343. PMID: 8341894
36. Dijk DJ and **Czeisler CA**. Body temperature is elevated during the rebound of slow wave sleep following 40 hours of sleep deprivation on a constant routine. *J Sleep Res* 1993; 2:117-120. PMID: 10607081
37. Dijk DJ, Hayes B, **Czeisler CA**. Dynamics of electroencephalographic sleep spindles and slow wave activity in men: effect of sleep deprivation. *Brain Res* 1993; 626:190-199. PMID: 8281430
38. Allan JS and **Czeisler CA**. Persistence of the circadian thyrotropin rhythm under constant conditions and after light-induced shifts of circadian phase. *J Clin Endocrinol Metab* 1994; 79:508-512. PMID: 8045970
39. Budnick LD, Lerman SE, Baker TL, Jones H and **Czeisler CA**. Sleep and alertness in a 12-hour rotating

shift work environment. *J Occup Med* 1994; 36:1295-1300. PMID: 7884570

40. Dijk DJ, **Czeisler CA**. Paradoxical timing of the circadian rhythm of sleep propensity serves to consolidate sleep and wakefulness in humans. *Neurosci Lett* 1994; 166:63-68. PMID: 8190360
41. Boivin DB, Duffy JF, Kronauer RE, **Czeisler CA**. Sensitivity of the human circadian pacemaker to moderately bright light. *J Biol Rhythms* 1994; 9:315-331. PMID: 7772798
42. Jewett ME, Kronauer RE, **Czeisler CA**. Phase-amplitude resetting of the human circadian pacemaker via bright light: a further analysis. *J Biol Rhythms* 1994; 9:295-314. PMID: 7772797
43. Dijk DJ, **Czeisler CA**. Contribution of the circadian pacemaker and the sleep homeostat to sleep propensity, sleep structure, electroencephalographic slow waves, and sleep spindle activity in humans. *J Neuroscience* 1995; 15:3526-3538. PMID: 7751928
44. **Czeisler CA**, Shanahan TL, Klerman EB, Martens H, Brotman DJ, Emens JS, Klein T, Rizzo III JF. Suppression of melatonin secretion in some blind patients by exposure to bright light. *N Engl J Med* 1995; 332:6-11. PMID: 7990870
45. Klerman EB, Dijk DJ, Kronauer RE, **Czeisler CA**. Simulations of effect of light on human circadian pacemaker: implications for assessment of intrinsic period. *Am J Physiology* 1996; 270:R271-R282. PMID: 8769811
46. Boivin DB, Duffy JF, Kronauer RE, **Czeisler CA**. Dose-response relationships for resetting of human circadian clock by light. *Nature* 1996; 379:540-542. PMID: 8596632
47. Waldstreicher J, Duffy JF, Brown EN, Rogacz S, Allan JS, **Czeisler CA**. Gender differences in the temporal organization of prolactin (PRL) secretion: Evidence for a sleep-independent circadian rhythm of circulating prolactin levels. *J Clin Endocrinol Metab*, 1996; 81:1483-1487. PMID: 8636355
48. Duffy JF, Kronauer RE, **Czeisler CA**. Phase-shifting human circadian rhythms: Influence of sleep timing, social contact and light exposure. *J Physiol (London)*, 1996; 495.1: 289-297. PMID: 8866371; PMCID: PMC1160744.
49. Richardson GS, Wyatt JK, Sullivan JP, Orav EJ, Ward AE, Wolf MA, **Czeisler CA**. Objective assessment of sleep and alertness in medical house staff and the impact of protected time for sleep. *Sleep*, 1996; 19:718-726. PMID: 9122559
50. El-Hajj Fuleihan G, Klerman EB, Brown EN, Choe Y, Brown EM, **Czeisler CA**. The parathyroid hormone circadian rhythm is truly endogenous. *J Clin Endocrinol Metab* 1997; 82: 281-286. PMID: 8989274
51. Boivin DB, **Czeisler CA**, Dijk D-J, Duffy JF, Folkard S, Minors DS, Totterdell P, Waterhouse JM. Complex interaction of the sleep-wake cycle and circadian phase modulates mood in healthy subjects. *Arch Gen Psychiatry* 1997; 54: 145-152. PMID: 9040282
52. Brown EN, Choe Y, Shanahan TL, **Czeisler CA**. A mathematical model of diurnal variations in human plasma melatonin levels. *Am J Physiology* 1997; 272: E506-E516. PMID: 9124558

53. Jewett ME, Rimmer DW, Duffy JF, Klerman EB, Kronauer RE, **Czeisler CA**. The human circadian pacemaker is sensitive to light throughout subjective day without evidence of transients. *Am J Physiology* 1997; 273: R1800-1809. PMID: 9374826
54. Zeitzer JM, Kronauer RE, **Czeisler CA**. Photopic transduction implicated in human circadian entrainment. *Neurosci Lett* 1997; 232: 135-138. PMID: 9310298
55. Dijk DJ, Shanahan TL, Duffy JF, Ronda JM, **Czeisler CA**. Variation of electroencephalographic activity during non-rapid eye movement sleep with phase of circadian melatonin rhythm in humans. *J Physiol (London)* 1997; 505.3: 851-858. PMID: 9457658; PMCID: PMC1160058.
56. Boivin DB, **Czeisler CA**. Resetting of circadian melatonin and cortisol rhythms in humans by ordinary room light. *Neuroreport* 1998; 9: 779-782. PMID: 9579664
57. Klerman EB, Rimmer DW, Dijk DJ, Kronauer RE, Rizzo III JF, **Czeisler CA**. Nonphotic entrainment of the human circadian pacemaker. *Am J Physiol* 1998; 274: R991-R996. PMID: 9575961
58. Duffy JF, Dijk DJ, Klerman EB, **Czeisler CA**. Later endogenous circadian temperature nadir relative to an earlier waketime in older people. *Am J Physiol* 1998; 275: R1478-R1487. PMID: 9791064
59. Jewett ME, Wyatt JK, Ritz-De Cecco A, Khalsa SB, Dijk DJ, **Czeisler CA**. Time course of sleep inertia dissipation in human performance and alertness. *J Sleep Res* 1999; 8: 1-8. PMID: 10188130
60. Wei HG, Riel E, **Czeisler CA**, Dijk DJ. Attenuated amplitude of circadian and sleep-dependent modulation of electroencephalographic sleep spindle characteristics in elderly human subjects. *Neurosci Lett*; 1999; 260:29-32. . PMID: 10027692
61. Duffy JF, Dijk D-J, Hall EF, **Czeisler CA**. Relationship of endogenous circadian melatonin and temperature rhythms to self-reported preference for morning or evening activity in young and older people. *J Investig Med* 1999; 47:141-150. PMID: 10198570
62. Dijk D-J, Duffy JF, Riel E, Shanahan TL, **Czeisler CA**. Ageing and the circadian and homeostatic regulation of human sleep during scheduled desynchrony of rest, melatonin and temperature rhythms. *J Physiol (London)* 1999; 516: 611-627. PMID: 10087357; PMCID: PMC2269279.
63. Kelly TL, Neri DF, Grill JT, Ryman D, Hunt PD, Dijk D-J, Shanahan TL, **Czeisler CA**. Nonentrained circadian rhythms of melatonin in submariners scheduled to an 18-hour day. *J Biol Rhythms* 1999; 14: 190-196. PMID: 10452330
64. Shanahan TL, Kronauer RE, Duffy JF, Williams GH, **Czeisler CA**. Melatonin rhythm observed throughout a three-cycle bright-light stimulus designed to reset the human circadian pacemaker. *J Biol Rhythms* 1999; 14: 237-253. PMID: 10452336
65. Cajochen C, Khalsa SB, Wyatt JK, **Czeisler CA**, Dijk D-J. EEG and ocular correlates of circadian melatonin phase and neurobehavioral decrements during sleep loss. *Am J Physiol* 1999; 277: R640-R649. PMID: 10484479
66. **Czeisler CA**, Duffy JF, Shanahan TL, Brown EN, Mitchell JF, Rimmer DW, Ronda JM, Silva EJ, Allan JS, Emens JS, Dijk DJ, Kronauer RE. Stability, precision, and near-24-hour period of the human

circadian pacemaker. *Science* 1999; 284: 2177-2181. PMID: 10381883

67. Klerman EB, Lee Y, **Czeisler CA**, Kronauer RE. Linear demasking techniques are unreliable for estimating the circadian phase of ambulatory temperature data. *J Biol Rhythms* 1999; 14: 260-274. PMID: 10447306
68. Wyatt JK, Ritz-De Cecco A, **Czeisler CA**, Dijk D-J. Circadian temperature and melatonin rhythms, sleep, and neurobehavioral function in humans living on a 20-h day. *Am J Physiol* 1999; 277:R1152-R1163. PMID: 10516257
69. Zeitzer JM, Daniels JE, Duffy JF, Klerman EB, Shanahan TL, Dijk DJ, **Czeisler CA**. Do plasma melatonin concentrations decline with age? *Am J Med* 1999; 107: 432-436. PMID: 10569297
70. Zeitzer JM, Ayas NT, Shea SA, Brown R, **Czeisler CA**. Absence of detectable melatonin and preservation of cortisol and thyrotropin rhythms in tetraplegia. *J Clin Endocrinol Metab* 2000; 85:2189-2196. PMID: 10852451
71. Spengler CM, **Czeisler CA**, Shea SA. An endogenous circadian rhythm of respiratory control in humans. *J Physiol (London)* 2000; 526 Pt 3:683-694. PMID: 10922018; PMCID: PMC2270042.
72. Cajochen C, Zeitzer JM, **Czeisler CA**, Dijk DJ. Dose-response relationship for light intensity and ocular and electroencephalographic correlates of human alertness. *Behav Brain Res* 2000; 115:75-83. PMID: 10996410
73. Zeitzer JM, Dijk DJ, Kronauer RE, Brown EN, **Czeisler CA**. Sensitivity of the human circadian pacemaker to nocturnal light: melatonin phase resetting and suppression. *J Physiol (London)* 2000; 526 Pt 3:695-702. PMID: 10922269; PMCID: PMC2270041.
74. Brown EN, Choe Y, Luithardt H, **Czeisler CA**. A statistical model of the human core-temperature circadian rhythm. *Am J Physiol Endocrinol Metab* 2000; 279: 279:E669-E683. PMID: 10950837
75. Rimmer DW, Boivin DB, Shanahan TL, Kronauer RE, **Czeisler CA**. Dynamic resetting of the human circadian pacemaker by intermittent light. *Am J Physiol Regul Integr Comp Physiol* 2000; 279:R1574-R1579. PMID: 11049838
76. Khalsa SBS, Jewett ME, Duffy JF, **Czeisler CA**. The timing of the human circadian clock is accurately represented by the core body temperature rhythm following phase shifts to a three-cycle light stimulus near the critical zone. *J Biol Rhythms* 2000; 15:524-530. PMID: 11106069
77. Klerman EB, Zeitzer JM, Duffy JD, Khalsa SBS, **Czeisler CA**. Absence of an increase in the duration of the circadian melatonin secretory episode in totally blind human subjects. *J Clin Endocrinol Metab* 2001; 86:3166-3170. PMID: 11443183
78. Dijk DJ, Duffy JF, **Czeisler CA**. Age-related increase in the frequency of awakenings: Impaired consolidation of nonREM sleep at all circadian phases. *Sleep* 2001;24:565-577. PMID: 11480654
79. Klerman EB, Duffy JF, Kronauer RE, **Czeisler CA**. Circadian phase resetting in older people by ocular bright light exposure. *J Invest Med* 2001; 49:30-40. PMID: 11217145

80. Duffy JF, Rimmer DW, **Czeisler CA**. Association of intrinsic period with morningness-eveningness, usual waketime, and circadian phase. *Behavioral Neurosci* 2001;115:895-899. PMID: 11508728
81. Elliott AR, Shea SA, Dijk DJ, Wyatt JK, Riel E, Neri DF, **Czeisler CA**, West JB, Prisk GK. Microgravity reduces sleep-disordered breathing in humans. *Am J Respir Crit Care Med* 2001; 164:478-485. PMID: 11500354
82. Horowitz TS, Cade B, Wolfe JM, **Czeisler CA**. Efficacy of bright light and sleep/darkness scheduling in alleviating circadian maladaptation to night work. *Am J Physiol: Endocrinol Metab* 2001; 281:E384-E391. PMID: 11440916
83. Dijk DJ, Neri DF, Wyatt JK, Ronda JM, Riel E, Ritz-De Cecco A, Hughes RJ, Elliott AR, Prisk GK, West JB, **Czeisler CA**. Sleep, performance, circadian rhythms and light-dark cycles during two space shuttle flights. *Am J Physiol Regul Integr Comp Physiol* 2001; 281:R1647-R1664. PMID: 11641138
84. Wright Jr KP, Hughes RJ, Kronauer RE, Dijk DJ, **Czeisler CA**. Intrinsic near-24-h pacemaker period determines limits of circadian entrainment to a weak synchronizer in humans. *Proc Natl Acad Sci* 2001; 98:14027-14032. PMID: 11717461
85. Duffy JF, Zeitzer JM, Rimmer DW, Klerman EB, Dijk DJ, **Czeisler CA**. Peak of circadian melatonin rhythm occurs later within the sleep of older subjects. *Am J Physiol Endocrinol Metab* 2002; 282:E297-E303. PMID: 11788360
86. Duffy JF, **Czeisler CA**. Age-related change in the relationship between circadian period, circadian phase, and diurnal preference in humans. *Neurosci Lett* 2002; 318:117-120. PMID: 11803113
87. Khalsa SBS, Conroy DA, Duffy JF, **Czeisler CA**, Dijk DJ. Sleep and circadian-dependent modulation of REM density. *J Sleep Res* 2002 11:53-59. PMID: 11869427
88. Wright Jr KP, Hull JT, **Czeisler CA**. Relationship between alertness, performance, and body temperature in humans. *Am J Physiol Regul Integr Comp Physiol* 2002; 283: R1370-R1377. PMID: 12388468
89. Cajochen C, Wyatt J, **Czeisler CA**, Dijk D. Separation of circadian and wake duration-dependent modulation of EEG activation during wakefulness. *Neuroscience*. 2002; 114:1047-1060. PMID: 12379258
90. Klerman EB, Shanahan TL, Brotman DJ, Rimmer DW, Emens JS, Rizzo JF 3rd, **Czeisler CA**. Photic resetting of the human circadian pacemaker in the absence of conscious vision. *J Biol Rhythms* 2002; 17:548-555. PMID: 12465888
91. Wright Jr KP, **Czeisler CA**. Absence of circadian phase resetting in response to bright light behind the knees. *Science* 2002; 297:571. PMID: 12142528
92. Khalsa SBS, Jewett ME, Cajochen C, **Czeisler CA**. A phase response curve to single bright light pulses in human subjects. *J Physiol (Lond)* 2003; 549:945-952. PMID: 12717008
93. Hull JT, Wright Jr KP, **Czeisler CA**. The influence of subjective alertness and motivation on human performance independent of circadian and homeostatic regulation. *J Biol Rhythms* 2003; 18:329-38.

PMID: 12932085

94. Lockley SW, Brainard GC, **Czeisler CA**. High sensitivity of the human circadian melatonin rhythm to resetting by short wavelength light. *J Clin Endocrinol Metab* 2003; 88:4502-4505. PMID: 12970330
95. Horowitz TS, Cade BE, Wolfe JM, **Czeisler CA**. Searching night and day: a dissociation of effects of circadian phase and time awake on visual selective attention and vigilance. *Psychol Sci* 2003; 14: 549-557. PMID: 14629685
96. Wyatt JK, Cajochen C, Ritz-De Cecco A, **Czeisler CA**, Dijk D-J. Low dose, repeated caffeine administration for circadian-phase dependent performance degradation during extended wakefulness. *Sleep* 2004; 27: 374-381. PMID: 15164887
97. Gronfier C, Wright Jr KP, Kronauer RE, Jewett ME, **Czeisler CA**. Efficacy of a Single Sequence of Intermittent Bright Light Pulses for Delaying Circadian Phase in Humans. *Am J Physiol: Endocrinol Metab* 2004; 287:E174-E181. PMID: 15039146
98. Barger LK, Wright Jr KP, Hughes RJ, **Czeisler CA**. Daily exercise facilitates phase delays of circadian melatonin rhythm in very dim light. *Am J Physiol: Regul Integr Comp Physiol* 2004; 286: R1077-R1084. PMID: 15031136
99. Smith KA, Schoen MW, **Czeisler CA**. Adaptation of human pineal melatonin suppression by prior photic history. *J Clin Endocrinol Metab* 2004; 89:3610-3614. PMID: 15240654
100. Lockley SW, Cronin JW, Evans EE, Cade BE, Lee CJ, Landrigan CP, Rothschild JM, Katz JT, Lilly CM, Stone PH, Aeschbach D, **Czeisler CA**; Harvard Work Hours, Health and Safety Group. Effect of reducing interns' weekly work hours on sleep and attentional failures. *N Engl J Med* 2004; 351:1829-1837. PMID: 15509816
101. Landrigan CP, Rothschild JM, Cronin JW, Kaushal R, Burdick E, Katz JT, Lilly CM, Stone PH, Lockley SW, Bates DW, **Czeisler CA**; Harvard Work Hours, Health and Safety Group. Effect of reducing interns' work hours on serious medical errors in intensive care units. *N Engl J Med* 2004; 351:1838-1848. PMID: 15509817
102. Zeitzer JM, Ayas NT, Wu AD, **Czeisler CA**, Brown R. Bilateral oculosympathetic paresis associated with loss of nocturnal melatonin secretion in patients with spinal cord injury. *J Spinal Cord Med* 2005; 28:55-59. PMID: 15832904
103. Wright KP Jr, Gronfier C, Duffy JF, **Czeisler CA**. Intrinsic period and light intensity determine the phase relationship between melatonin and sleep in humans. *J Biol Rhythms* 2005; 20:168-177. PMID: 15834113
104. Barger LK, Cade BE, Ayas NT, Cronin JW, Rosner B, Speizer FE, **Czeisler CA**; Harvard Work Hours, Health, and Safety Group. Extended work shifts and the risk of motor vehicle crashes among interns. *N Engl J Med* 2005; 352:125-134. PMID: 15647575
105. Zeitzer JM, Khalsa SB, Boivin DB, Duffy JF, Shanahan TL, Kronauer RE, **Czeisler CA**. Temporal dynamics of late-night photic stimulation of the human circadian timing system. *Am J Physiol Regul*

Integr Comp Physiol 2005; 289:R839-R844. PMID: 15890792

106. Santhi N, Duffy JF, Horowitz TS, **Czeisler CA**. Scheduling of sleep/darkness affects the circadian phase of night shift workers. *Neurosci Lett* 2005; 384:316-320. PMID: 15919151
107. **Czeisler CA**, Walsh JK, Roth T, Hughes RJ, Wright KP, Kingsbury L, Arora S, Schwartz JR, Niebler GE, Dinges DF; U.S. Modafinil in Shift Work Sleep Disorder Study Group. Modafinil for excessive sleepiness associated with shift-work sleep disorder. *N Engl J Med* 2005; 353:476-486. [Erratum in: *N Engl J Med*. 2005 353:1078] PMID: 16079371
108. Rothschild JM, Landrigan CP, Cronin JW, Kaushal R, Lockley SW, Burdick E, Stone PH, Lilly CM, Katz JT, **Czeisler CA**, Bates DW. The Critical Care Safety Study: The incidence and nature of adverse events and serious medical errors in intensive care. *Crit Care Med* 2005; 33:1694-1700. PMID: 16096443
109. Scheer FA, Zeitzer JM, Ayas NT, Brown R, **Czeisler CA**, Shea SA. Reduced sleep efficiency in cervical spinal cord injury; association with abolished night time melatonin secretion. *Spinal Cord* 2006; 44:78-81. PMID: 16130027
110. Lockley SW, Evans EE, Scheer FAJL, Brainard GC, **Czeisler CA**, Aeschbach D. Short-wavelength sensitivity for the direct effects of light on alertness, vigilance and waking electroencephalogram in humans. *Sleep* 2006; 29:161-168. PMID: 16494083
111. Wright KP Jr, Hull JT, Hughes RJ, Ronda JM, **Czeisler CA**. Sleep and wakefulness out of phase with internal biological time impairs learning in humans. *J Cognitive Neurosci* 2006; 18:508-521. PMID: 16768357
112. Wertz AT, Ronda JM, **Czeisler CA**, Wright KP Jr. The Effects of Sleep Inertia on Cognition. *JAMA* 2006; 295: 163-164. PMID: 16403927
113. Grady SP, Nishino S, **Czeisler CA**, Hepner D and Scammell TE. Diurnal Variation in CSF Orexin-A in Healthy Male Subjects. *Sleep* 2006; 29:295-297. PMID: 16553014
114. Rothschild JM, Hurley AC, Landrigan CP, Cronin JW, Martell-Waldrop K, Foskett C, Burdick E, **Czeisler CA**, Bates DW. Recovery from medical errors: the critical care nursing safety net. *Jt Comm J Qual Patient Saf* 2006; 32:63-72. PMID: 16568919
115. Wyatt JK, Dijk D-J, De Cecco AR, Ronda JM, **Czeisler CA**. Sleep-facilitating effect of exogenous melatonin in healthy young men and women is circadian phase dependent. *Sleep* 2006; 29:609-618. PMID: 16774150
116. Ayas NT, Barger LK, Cade BE, Hashimoto DM, Rosner B, Cronin JW, Speizer FE, **Czeisler CA**. Extended work duration and the risk of self-reported percutaneous injuries in interns. *JAMA* 2006; 296:1055-1062. PMID: 16954484
117. Landrigan CP, Barger LK, Cade BE, Ayas NT, **Czeisler CA**. Interns' compliance with accreditation council for graduate medical education work-hour limits. *JAMA* 2006; 296:1063-1070. PMID: 16954485
118. Barger LK, Ayas NT, Cade BE, Cronin JW, Rosner B, Speizer FE, **Czeisler CA**. Impact of extended-

- duration shifts on medical errors, adverse events, and attentional failures. *PLoS Med* 2006; 3:e487. PMID: 17194188. PMCID: PMC1705824.
119. Duffy JF, Zeitzer JM, **Czeisler CA**. Decreased sensitivity to phase-delaying effects of moderate intensity light in older subjects. *Neurobiol Aging* 2007; 28:799-807. [2006 Apr 16; Epub ahead of print] PMID: 16621166; PMCID: PMC1855248.
 120. St. Hilaire MA, Klerman EB, Khalsa SB, Wright, Jr. KP, **Czeisler CA**, Kronauer RE. Addition of a non-photic component to a light-based mathematical model of the human circadian pacemaker. *J Theoretical Biol* 2007; 247: 583-599. PMID: 17531270; PMCID: PMC3123888.
 121. Scheer FAJL, Wright Jr. KP, Kronauer RE, **Czeisler CA**. Plasticity of the Intrinsic Period of the Human Circadian Timing System. *PLoS ONE* 2007; 2:e721. PMID: 17684566; PMCID: PMC1934931.
 122. Zeitzer JM, Duffy JF, Lockley SW, Dijk DJ, **Czeisler CA**. Plasma melatonin rhythms in young and older humans during sleep, sleep deprivation, and wake. *Sleep* 2007; 30:1437-1443. PMID: 18041478; PMCID: PMC2082092.
 123. Santhi N, Horowitz TS, Duffy JF, **Czeisler CA**. Acute sleep deprivation and circadian misalignment associated with transition onto the first night of work impairs visual selective attention. *PLoS ONE* 2007; 11:e1233. PMID: 18043740; PMCID: PMC2077929.
 124. Cain SW, Rimmer DW, Duffy JF, **Czeisler CA**. Exercise distributed across day and night does not alter circadian period in humans. *J Biol Rhythms* 2007; 22:534-541. PMID: 18057328
 125. 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 humans lacking an outer retina. *Current Biology* 2007; 17, 2122-2128. PMID: 18082405; PMCID: PMC2151130.
 126. Gronfier C, Wright Jr. KP, Kronauer RE, **Czeisler CA**. Entrainment of the human circadian pacemaker to longer-than-24h days. *Proc Nat Acad Sci* 2007; 104:9081-9086. PMID: 17502598; PMCID: PMC1885631.
 127. Santhi N, Aeschbach D, Horowitz TS, **Czeisler CA**. The impact of sleep timing and bright light exposure on attentional impairment during night work. *J Biol Rhythms* 2008; 23:341-352. PMID: 18663241; PMCID: PMC2574505.
 128. Duffy JF, Willson HJ, Wang W, **Czeisler CA**. Healthy older adults better tolerate sleep deprivation than young adults. *J Am Geriatr Soc* 2009; 57(7):1245-51. PMID: 19460089; PMCID: PMC3122254.
 129. Aeschbach D, Lockyer BJ, Dijk D-J, Lockley SW, Nuwayser ES, Nichols LD, **Czeisler CA**. Use of transdermal melatonin delivery to improve sleep maintenance during daytime. *Clin Pharmacol Ther* 2009; 86(4):378-82. PMID: 19606092; PMCID: PMC2909186.
 130. Lipton J, Megerian JT, Kothare SV, Cho YJ, Shanahan T, Chart H, Ferber R, Adler-Golden L, Cohen LE, **Czeisler CA**, Pomeroy SL. Melatonin deficiency and disrupted circadian rhythms in pediatric survivors of craniopharyngioma. *Neurology*. 2009;73(4):323-325. PMID: 19636054; PMCID:

PMC2715212.

131. Rothschild JM, Keohane CA, Rogers S, Gardner R, Lipsitz SR, Salzberg CA, Yu T, Yoon CS, Williams DH, Wien MF, **Czeisler CA**, Bates DW, Landrigan CP. Risks of Complications by Attending Physicians After Performing Nighttime Procedures. *JAMA* 2009; 302(14):1565-72. PMID: 19826026
132. **Czeisler CA**, Walsh JK, Wesnes KA, Arora S, Roth T. Armodafinil for treatment of excessive sleepiness associated with shift work disorder: A randomized controlled study. *Mayo Clinic Proc* 2009; 84(11):958-972. PMID: 19880686; PMCID: PMC2770907.
133. Cohen DA, Wang W, Wyatt JK, Kronauer RE, Dijk DJ, **Czeisler CA**, Klerman EB. Uncovering residual effects of chronic sleep loss on human performance. *Sci Transl Med* 2010; 2(14):14ra3. PMID: 20371466; PMCID: PMC2892834.
134. Munch M, Silva EJ, Ronda JM, **Czeisler CA**, Duffy JF. EEG sleep spectra in older adults across all circadian phases during NREM sleep. *Sleep* 2010; 33(3):389-401. PMID: 20337198; PMCID: PMC2831434.
135. Gooley JJ, Rajaratnam SMW, 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. PMID: 20463367
136. Jung CM, Khalsa SB, Scheer FAJL, Cajochen C, Lockley SW, **Czeisler CA**, Wright KP Jr. Acute effects of bright light exposure on cortisol levels. *J Biol Rhythms* 2010; 25(3):208-216. PMID: 20484692; PMCID: PMC3686562.
137. Blum AB, Raiszadeh F, Shea S, Mermin D, Lurie P, Landrigan CP, **Czeisler CA**. U.S. Public Opinion Regarding Proposed Limits on Resident-physician Work Hours. *BMC Med* 2010; 8:33. PMID: 20515479; PMCID: PMC2901227.
138. Grady SP, Aeschbach D, Wright KP Jr., **Czeisler CA**. Effect of modafinil on impairments in neurobehavioral performance and learning associated with extended wakefulness and circadian misalignment. *Neuropsychopharmacol* 2010; 35(9):1910-1920. PMID: 20505660; PMCID: PMC2904872.
139. Cain SW, Dennison CF, Zeitzer JM, Guzik AM, Khalsa SB, Santhi N, Schoen MW, **Czeisler CA**, Duffy JF. Sex differences in phase angle of entrainment and melatonin amplitude in humans. *J Biol Rhythms* 2010; 25(4):288-296. PMID: 20679498. PMCID: PMC3792014.
140. Gordon JA, Alexander EK, Lockley SW, Evans EE, Venkatan SK, Landrigan CP, **Czeisler CA**. Does simulator-based clinical performance correlate with actual hospital behavior? The effect of extended work hours on patient care provided by medical interns. *Acad Med* 2010; 85(10):1583-1588. PMID: 20881679. PMCID: PMC3754850.
141. 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. PMID 21193540; PMCID: PMC3047226.

142. Chang AM, Scheer FA, **Czeisler CA**. The human circadian system adapts to prior photic history. *J Physiol* 2011; 589(Pt5):1095-1102. PMID 21224217; PMCID: PMC3060589.
143. Duffy JF, Cain SW, Chang AM, Phillips AJK, Munch MY, Gronfier C, Wyatt JK, Dijk D-J, Wright KP Jr., **Czeisler CA**. Sex difference in the near-24-hour intrinsic period of the human circadian timing system. *Proc Natl Acad Sci* 2011;108 Suppl 3:15602-8. [Epub May 2 2011] PMID 21536890; PMCID: PMC3176605.
144. Jung CM, Ronda JM, **Czeisler CA**, Wright KP Jr. Comparison of sustained attention assessed by auditory and visual psychomotor vigilance tasks prior to and during sleep deprivation. *J Sleep Res* 2011; 20:348-355. PMID: 20819145; PMCID: PMC3603691.
145. Phillips AJK, **Czeisler CA**, Klerman EB. Revisiting Spontaneous Internal Desynchrony using a Quantitative Model of Sleep Physiology. *J Biol Rhythms* 2011; 26:441-453. PMID 21921298; PMCID: PMC3557950.
146. Rajaratnam SM, Barger LK, Lockley SW, Shea SA, Wang W, Landrigan CP, O'Brien CS, Qadri S, Sullivan JP, Cade BE, Epstein LJ, White DP, **Czeisler CA**; Harvard Work Hours, Health and Safety Group. Sleep disorders, health, and safety in police officers. *JAMA* 2011; 306:2567-78. PMID 22187276.
147. Dijk DJ, Duffy JF, Silva EJ, Shanahan TL, Boivin DB, **Czeisler CA**. Amplitude reduction and phase shifts of melatonin, cortisol and other circadian rhythms after a gradual advance of sleep and light exposure in humans. *PLoS One* 2012; 7(2):e30037. PMID 22363414; PMCID: PMC3281823.
148. Buxton OM, Cain SW, O'Connor SP, Porter JH, Duffy JF, Wang W, **Czeisler CA**, Shea SA. Metabolic consequences in humans of prolonged sleep restriction combined with circadian disruption. *Sci Transl Med* 2012; 4(129):129ra43. PMID: 22496545. PMCID: PMC3678519.
149. Chang AM, Santhi N, St Hilaire MA, Gronfier C, Bradstreet DS, Duffy JF, Lockley SW, Kronauer RE, **Czeisler CA**. Human responses to bright light of different durations. *J Physiol* 2012; 590(13):3103-12. PMID: 22526883; PMCID: PMC3406393.
150. St. Hilaire MA, Gooley JJ, Khalsa SBS, Kronauer RE, **Czeisler CA**, Lockley SW. Human Phase Response Curve (PRC) to a 1-hour pulse of bright white light. *J Physiol* 2012; 590(13):3035-45. PMID: 22547633; PMCID: PMC3406389.
151. Klerman EB, Wang W, Duffy JF, Dijk D-J, **Czeisler CA**, Kronauer RE. Survival analysis indicates that age-related decline in sleep continuity occurs exclusively during NREM sleep. *Neurobiol Aging* 2013; 34(1):309-18. PMID: 22727943; PMCID: PMC3469724.
152. Pomplun M, Silva EJ, Ronda JM, Cain SW, Munch MY, **Czeisler CA**, Duffy JF. The effects of circadian phase, time awake, and imposed sleep restriction on performing complex visual tasks: evidence from comparative visual search. *J Vision* 2012; 12(7) pii:14. PMID: 22836655.
153. Berger M, Varvarigou V, Rielly A, **Czeisler CA**, Malhotra A, Kales SN. Employer-mandated sleep apnea screening and diagnosis in commercial drivers. *J Occup Environ Med* 2012; 54(8):1017-1025. PMID: 22850349; PMCID: PMC3415601.
154. Anderson C, Sullivan JP, Flynn-Evans EE, Cade BE, **Czeisler CA**, Lockley SW. Deterioration of

neurobehavioral performance in resident physicians during repeated exposure to extended duration work shifts. *Sleep* 2012; 35(8):1137-46. PMID: 22851809; PMCID: PMC3397817.

155. Lim ASP, Chang AM, Shulman JM, Raj T, Chibnik LB, Cain SW, Rothamel K, Benoist C, Myers AJ, **Czeisler CA**, Buchman AS, Bennett DA, Duffy JF, Saper CB, De Jager PL. A common polymorphism near PER1 and the timing of human behavioral rhythms. *Ann Neurol* 2012; 72(3):324-34. PMID: 23034908; PMCID: PMC3464954.
156. Gooley JJ, Ho Mien I, St. Hilaire MA, Yeo SC, Chua ECP, 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. PMID: 23055493; PMCID: PMC3515688.
157. Rüger M, St. Hilaire MA, Brainard G, Khalsa SBS, Kronauer RE, **Czeisler CA**, Lockley SW. Human phase response curve to a single 6.5-h pulse of short-wavelength light. *J Physiol* 2013; 591 (Pt 1):353-63. PMID: 23090946; PMCID: PMC3630790.
158. Crowley KE, Rajaratnam SMW, Shea SA, Epstein LJ, **Czeisler CA**, Lockley SW. Evaluation of a single-channel nasal pressure device to assess obstructive sleep apnea risk in laboratory and home environments. *J Clin Sleep Med* 2013; 9(2):109-116. PMID: 23372462; PMCID: PMC3544377.
159. Shekleton JA, Rajaratnam SWM, Gooley JJ, Van Reen E, **Czeisler CA**, Lockley SW. Improved neurobehavioral performance during the wake maintenance zone. *J Clin Sleep Med* 2013; 9(4):353-362. PMID: 23585751; PMCID: PMC3601314.
160. Sigurdardottir LG, Valdimarsdottir UA, Mucci LA, Fall K, Rider JR, Schernhammer E, **Czeisler CA**, Launer L, Harris T, Stampfer MJ, Gudnason V, Lockley SW. Sleep disruption among older men and risk of prostate cancer. *Cancer Epidemiol Biomarkers Prev* 2013; 22(5):872-9. PMID: 23652374; PMCID: PMC3652595.
161. Vandewalle G, Collignon O, Hull JT, Daneault V, Albouy G, Lepore F, Phillips C, Doyon J, **Czeisler CA**, Dumont M, Lockley SW, Carrier J. Blue light stimulates cognitive brain activity in visually blind individuals. *J Cogn Neurosci* 2013; 25(12):2072-85. PMID:23859643.
162. Chang AM, Scheer FAJL, **Czeisler CA**, Aeschbach D. Direct effects of light on alertness, vigilance, and the waking electroencephalogram in humans depend on prior light history. *Sleep* 2013; 36(8):1239-46. PMID: 23904684; PMCID: PMC3700721.
163. Anderson C, Chang AM, Sullivan JP, Ronda JM, **Czeisler CA**. Assessment of Drowsiness Based on Ocular Parameters Detected by Infra-Red Reflectance Oculography. *J Clin Sleep Med* 2013; 9(9):907-20. PMID: 23997703. PMCID: PMC3746718.
164. Lucas RJ, Peirson SN, Berson DM, Brown TM, Cooper HM, **Czeisler CA**, Figueiro MG, Gamlin PD, Lockley SW, O'Hagan JB, Price LL, Provencio I, Skene DJ, Brainard GC. Measuring and using light in the melanopsin age. *Trends Neurosci* 2014; 37(1):1-9. PMID: 24287308.
165. Gradisar M, Wolfson AR, Harvey AG, Hale L, Rosenberg R, **Czeisler CA**. The Sleep and Technology Use of Americans: Findings from The National Sleep Foundation's 2011 Sleep in America Poll. *J Clin*

Sleep Med 2013; 9(12):1291-9. PMID 24340291. PMCID: PMC3836340.

166. Balasubramanian R, Cohen DA, Klerman EB, Pignatelli D, Hall JE, Dwyer AA, **Czeisler CA**, Pitteloud N, Crowley WF Jr. Absence of Central Circadian Pacemaker Abnormalities in Humans With Loss of Function Mutation in Prokineticin 2. *J Clin Endocrinol Metab.* 2014; 99(3):E561-6. PMID: 24423319. PMCID: PMC3942237.
167. Rahman SA; Flynn-Evans EE; Aeschbach D; Brainard GC; **Czeisler CA**; Lockley SW. Diurnal spectral sensitivity of the acute alerting effects of light. *Sleep* 2014; 37(2):271-281. PMID: 24501435. PMCID: PMC3942237.
168. Devore EE, Grodstein F, Duffy JF, Stampfer MJ, **Czeisler CA**, Schernhammer ES. Sleep Duration in Midlife and Later Life in Relation to Cognition. *J Am Geriatr Soc* 2014 62(6):1073-81. PMID: 24786726. PMCID: PMC4188530.
169. Sigurdardottir LG, Markt SC, Rider JR, Haneuse S, Fall K, Schernhammer ES, Tamimi RM, Flynn-Evans E, Batista JL, Launer L, Harris T, Aspelund T, Stampfer MJ, Gudnason V, **Czeisler CA**, Lockley SW, Valdimarsdottir UA, Mucci LA. Urinary Melatonin Levels, Sleep Disruption, and Risk of Prostate Cancer in Elderly Men. *Eur Urol* 2014; 67(2):191-194. PMID 25107635.
170. Barger LK, Flynn-Evans EE, Kubey A, Walsh L, Ronda JM, Wang W, Wright KP Jr, **Czeisler CA**. Prevalence of sleep deficiency and use of hypnotic drugs in astronauts before, during, and after spaceflight: an observational study. *Lancet Neurol* 2014; 13(9): 904-12. PMID: 25127232. PMCID: PMC4188436.
171. Markt SC, Valdimarsdottir UA, Shui IM, Sigurdardottir LG, Rider JR, Tamimi RM, Batista JL, Haneuse S, Flynn-Evans E, Lockley SW, **Czeisler CA**, Stampfer MJ, Launer L, Harris T, Smith AV, Gudnason V, Lindstrom S, Kraft P, Mucci LA. Circadian clock genes and risk of fatal prostate cancer. *Cancer Causes Control* 2015; 26(1):25-33. PMID: 25388799. PMCID: PMC4282953.
172. Rahman SA, Castanon-Cervantes O, Scheer FAJL, Shea SA, **Czeisler CA**, Davidson AJ, Lockley SW. Endogenous circadian regulation of pro-inflammatory cytokines and chemokines in the presence of bacterial lipopolysaccharide in humans. *Brain Behav Immun* 2015; 47:4-13. PMID: 25452149.
173. Chang AM, Aeschbach D, Duffy JF, **Czeisler CA**. Evening Use of Light-Emitting eReaders Negatively Affects Sleep, Circadian Timing, and Next-Morning Alertness. *Proc Natl Acad Sci* 2015; 112(4):1232-7. PMID: 25535358.
174. Barger LK, Rajaratnam SMW, Wang W, O'Brien CS, Sullivan JP, Qadri S, Lockley SW, **Czeisler CA**. Common sleep disorders increase risk of motor vehicle crashes and adverse health outcomes in firefighters. *J Clin Sleep Med* 2015; 11(3):233-40. PMID: 25580602.
175. Aronow HD, Gurm HS, Blankenship JC, **Czeisler CA**, Wang TY, McCoy LA, Neely ML, Spertus JA. Middle-of-the-night percutaneous coronary intervention and its association with percutaneous coronary intervention outcomes performed the following day: An analysis from the National Cardiovascular Data Registry. *JACC Cardiovasc Interv* 2015; 8(1 Pt A):49-56. PMID: 25616817.
176. Wright KP Jr, Drake AL, Frey DJ, Fleshner M, Desouza CA, Gronfier C, **Czeisler CA**. Influence of sleep deprivation and circadian misalignment on cortisol, inflammatory markers, and cytokine balance.

Brain Behav Immun 2015; 47:24-34. PMID 25640603.

177. Burke TM, Scheer FA, Ronda JM, **Czeisler CA**, Wright KP Jr. Sleep inertia, sleep homeostatic and circadian influences on higher-order cognitive functions. *J Sleep Res* 2015; 24(4):364-71. PMID: 25773686.
178. Rajaratnam SMW, Landrigan CP, Wang W, Kaprielian R, Moore RT, **Czeisler CA**. Teen driver crashes decreased after massachusetts increased restrictions, penalties, and made education classes mandatory. *Health Affairs* 2015; 34(6):963-970. PMID: 26056201.
179. de la Iglesia HO, Fernández-Duque E, Golombek DA, Lanza N, Duffy JF, **Czeisler CA**, Valeggia CR. Access to electric light is associated with shorter sleep duration in a traditionally hunter-gatherer community. *J Biol Rhythms* 2015; 30(4):342-50. PMID: 26092820.
180. Maurer L, Zitting KM, Elliott K, **Czeisler CA**, Ronda JM, Duffy JF. A new face of sleep: The impact of post-learning sleep on recognition memory for face-name associations. *Neurobiol Learn Mem.* 2015; 126:31-38. doi:10.1016/j.nlm.2015.10.012. Epub 2015 Nov 5. PMID: 26549626; PMCID: PMC4666502.
181. Flynn-Evans EE, Barger LK, Kubey AA, Sullivan JP, **Czeisler CA**. Circadian misalignment affects sleep and medication use before and during spaceflight. *NPJ Microgravity.* 2016; 2:15019. doi: 10.1038/npjmgrav.2015.19. PMID: 28725719; PMCID: PMC5515517.
182. Markt SC, Flynn-Evans EE, Valdimarsdottir UA, Sigurdardottir LG, Tamimi RM, Batista JL, Haneuse S, Lockley SW, Stampfer M, Wilson KM, **Czeisler CA**, Rider JR, Mucci LA. Sleep Duration and Disruption and Prostate Cancer Risk: a 23-Year Prospective Study. *Cancer Epidemiol Biomarkers Prev.* 2016 Feb;25(2):302-8. doi: 10.1158/1055-9965.EPI-14-1274. Epub 2015 Dec 16. PMID: 26677208; PMCID: PMC4767658.
183. Lee ML, Howard ME, Horrey WJ, Liang Y, Anderson C, Shreeve MS, O'Brien CO, **Czeisler CA**. High risk of near-crash driving events following night-shift work. *Proc Natl Acad Sci U S A.* 2016 Jan 5;113(1):176-81. doi: 10.1073/pnas.1510383112. Epub 2015 Dec 22. PMID: 26699470; PMCID: PMC4711869.
184. Lane JM, Chang AM, Bjornes AC, Aeschbach D, Anderson C, Cade BE, Cain SW, **Czeisler CA**, Gharib SA, Gooley JJ, Gottlieb DJ, Grant SF, Klerman EB, Lauderdale DS, Lockley SW, Munch M, Patel S, Punjabi NM, Rajaratnam SM, Rueger M, St Hilaire MA, Santhi N, Scheuermaier K, Van Reen E, Zee PC, Shea SA, Duffy JF, Buxton OM, Redline S, Scheer FA, Saxena R. Impact of common diabetes risk variant in MTNR1B on sleep, circadian and melatonin physiology. *Diabetes* 2016; 65(6):1741-1751. PMID: 26868293.
185. Bermudez EB, Klerman EB, **Czeisler CA**, Cohen DA, Wyatt JK, Phillips AJ. Prediction of vigilant attention and cognitive performance using self-reported alertness, circadian phase, hours since awakening, and accumulated sleep loss. *PLoS ONE* 2016; 11(3): e0151770. PMID: 27019198.
186. Barger LK, O'Brien CS, Rajaratnam SM, Qadri S, Sullivan JP, Wang W, **Czeisler CA**, Lockley SW. Implementing a Sleep Health Education and Sleep Disorders Screening Program in Fire Departments: A Comparison of Methodology. *J Occup Environ Med* 2016; 58(6):61-9. PMID: 27035103.
187. Burks SV, Anderson JE, Bombyk M, Haider R, Ganzhorn D, Jiao X, Lewis C, Lexvold A, Liu H, Ning J,

- Toll A, Hickman JS, Mabry E, Berger M, Malhotra A, **Czeisler CA**, Kales SN. Non-adherence with employer-mandated sleep apnea treatment and increased risk of serious truck crashes. *Sleep* 2016; 39(5):967-75. PMID: 27070139.
188. Chang AM, Bjornes A, Aeschback D, Buxton OM, Gooley JJ, Anderson C, Van Reen E, Cain SW, **Czeisler CA**, Duffy JF, Lockley SW, Shea S, Scheer FAJL, Saxena R. Circadian Gene Variants Influence Sleep and the Sleep Electroencephalogram in Humans. *Chronobiol Int* 2016; 33(5):561-73. PMID: 27089043
189. Sigurdardottir LG, Markt SC, Sigurdsson S, Aspelund T, Fall K, Schernhammer E, Rider JR, Launer L, Harris T, Stampfer MJ, Gudnason V, **Czeisler CA**, Lockley SW, Valdimarsdottir UA, Mucci LA. Pineal gland volume assessed by MRI and its correlation with 6-sulfatoxymelatonin levels among older men. *J Biol Rhythms* 2016; 31(5):1171-3. PMID: 27449477.
190. Walsh L, McLoone S, Ronda J, Duffy JF, **Czeisler CA**. Non-contact Pressure-based Sleep/Wake Discrimination. *IEEE Trans Biomed Eng* 2017; 64(8):1750-1760. PMID: 27845651.
191. Cain SW, Chang AM, Vlasac I, Tare A, Anderson C, **Czeisler CA**, Saxena R. Circadian rhythms in plasma brain-derived neurotrophic factor differ in men and women. *J Biol Rhythms*. 2017 Feb;32(1):75-82. PMID: 28326910.
192. Sullivan JP, O'Brien CS, Barger LK, Rajaratnam SM, **Czeisler CA**, Lockley SW; Harvard Work Hours, Health and Safety Group. Randomized, prospective study of the impact of a sleep health program on firefighter injury and disability. *Sleep* 2017; 40(1). PMID: 28364446.
193. Rahman SA, St Hilaire MA, Chang AM, Santhi N, Duffy JF, Kronauer RE, **Czeisler CA**, Lockley SW, Klerman EB. Circadian phase resetting by a single short-duration light exposure. *JCI Insight*. 2017 Apr 6;2(7):e89494. PMID: 28405608.
194. Phillips AJK, Clerx WM, O'Brien CS, Sano A, Barger LK, Picard RW, Lockley SW, Klerman EB, **Czeisler CA**. Irregular sleep/wake patterns are associated with poorer academic performance and delayed circadian and sleep/wake timing. *Scientific Reports* 2017; 7(1):3216. PMID: 28607474 PMCID: PMC5468315.
195. Swanson C, Shea SA, Wolfe P, Markwardt S, Cain SW, Munch M, **Czeisler CA**, Orwoll ES, Buxton OM. 24-hour profile of serum sclerostin and its association with bone biomarkers in men. *Osteoporos Int* 2017; 28(11):3205-3213. PMID: 28744601. PMCID: PMC5859541.
196. Rachmin I, O'Meara CC, Ricci-Blair EM, Feng Y, Christensen EM, Duffy JF, Zitting KM, **Czeisler CA**, Pancoast JR, Cannon CP, O'Donoghue ML, Morrow DA, Lee RT. Soluble interleukin-13 α 1: A circulating regulator of glucose. *Am J Physiol Endocrinol Metab* 2017; 313(6):E663-E671. PMID: 28874358. PMCID: PMC5814599.
197. McHill AW, Phillips AJK, **Czeisler CA**, Keating L, Yee K, Barger LK, Garaulet M, Scheer FAJL, Klerman EB. Later circadian timing of food intake is associated with increased body fat. *Am J Clin Nutr* 2017; 106(5):1213-1219. PMID: 28877894. PMCID: PMC5657289.
198. Grant LK, Cain SW, Chang AM, Saxena R, **Czeisler CA**, Anderson C. Impaired cognitive flexibility during sleep deprivation among carriers of the Brain Derived Neurotrophic Factor (BDNF) Val66Met

allele. *Behav Brain Res* 2018; 338:51-55. PMID: 28947280.

199. Swanson C, Shea SA, Wolfe P, Cain SW, Munch M, Vujovic N, **Czeisler CA**, Buxton OM, Orwoll ES. Bone turnover markers after sleep restriction and circadian disruption: A mechanism for sleep-related bone loss in humans. *J Clin Endocrinol Metab* 2017; 102(10):3722-3730. PMID: 28973223 PMCID: PMC5630251.
200. Barger LK, Rajaratnam SMW, Cannon CP, Lukas MA, Im K, Goodrich EL, **Czeisler CA**, O'Donoghue ML. Short sleep duration, obstructive sleep apnea, shiftwork, and the risk of adverse cardiovascular events in patients after an acute coronary syndrome. *J Am Heart Assoc* 2017; 6(10): pii: e006959. PMID: 29018021.
201. Liang Y, Horrey WJ, Howard ME, Lee ML, Anderson C, Shreeve MS, O'Brien CS, **Czeisler CA**. Prediction of drowsiness events in night shift workers during morning driving. *Accid Anal Prev*. 2017 Nov 7. [Epub ahead of print]. PMID: 29126462.
202. Williams JS, Autori PJ, Kidd SK, Piazza G, Connors MC, **Czeisler CA**, Scheuermaier KD, Duffy J, Klerman EB, Scheer FA, Kozak M, Driscoll SM, Goldhaber SZ. Heparin-induced thrombocytopenia in healthy individuals with continuous heparin infusion. *TH Open*. 2018 Jan 30;2(1):e49-e53. doi: 10.1055/s-0038-1624565. eCollection 2018 Jan. PubMed PMID: 31249929; PubMed Central PMCID: PMC6524859.
203. Anderson C, Ftouni S, Ronda JM, Rajaratnam SMW, **Czeisler CA**, Lockley SW. Self-reported drowsiness and safety outcomes while driving after an extended duration work shift in trainee physicians. *Sleep* 2018; 41(2):1-11. PMID: 29281091.
204. Stern HS, Blower D, Cohen ML, **Czeisler CA**, Dinges DF, Greenhouse JB, Guo F, Hanowski RJ, Hartenbaum NP, Krueger GP, Mallis MM, Pain RF, Rizzo M, Sinha E, Small DS, Stuart EA, Wegman DH. Data and methods for studying commercial motor vehicle driver fatigue, highway safety and long-term driver health. *Accid Anal Prev* 2018; 125(8): 1160-1171. PMID: 29530304.
205. Gottlieb DJ, Ellenbogen JM, Bianchi MT, **Czeisler CA**. Sleep deficiency and motor vehicle crash risk in the general population: a prospective cohort study. *BMC Med* 2018; 16(1):44. PMID: 29554902 PMCID: PMC5859531.
206. Hull JT, **Czeisler CA**, Lockley SW. Suppression of melatonin secretion in totally visually blind people by ocular exposure to white light: Clinical characteristics. *Ophthalmology* 2018; 125(8):1160-1171. PMID: 29625838.
207. Rahman SA, St Hilaire MA, Gronfier C, Chang AM, Santhi N, **Czeisler CA**, Klerman EB, Lockley SW. Functional decoupling of melatonin suppression and circadian phase resetting in humans. *J Physiol* 2018; 596(11): 2147-2157. PMID: 29707782.
208. McHill AW, Hull J, Wang W, **Czeisler CA**, Klerman E. Chronic sleep curtailment, even without extended (>16 h) wakefulness, degrades human vigilance performance. *Proc Natl Acad Sci* 2018; 115(23):6070-6075. PMID: 29784810.
209. 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). PMID: 29790961.

210. Chinoy ED, Duffy JF, **Czeisler CA**. Unrestricted evening use of light-emitting tablet computers delays self-selected bedtime and disrupts circadian timing and alertness. *Physiol Rep*. 2018; 6(10):e13692. PMID: 29845764.
211. Zitting KM, Munch MY, Cain SW, Wang W, Wong A, Ronda JM, Aeschbach D, **Czeisler CA**, Duffy JF. Young adults are more vulnerable to chronic sleep deficiency and recurrent circadian disruption than older adults. *Sci Reports* 2018; 8(1):11052. PMID: 30038272.
212. Weaver MD, Vetter C, Rajaratnam SMW, O'Brien CS, Qadri S, Benca RM, Rogers AE, Leary EB, Walsh JK, **Czeisler CA**, Barger LK. Sleep disorders, depression, and anxiety are associated with adverse safety outcomes in healthcare workers: A prospective cohort study. *J Sleep Res* 2018 Aug 1. [Epub ahead of print]. PMID: 30069960.
213. Ogeil RP, Barger LK, Lockley SW, O'Brien CS, Sullivan JP, Qadri S, Lubman DI, **Czeisler CA**, Rajaratnam SMW. Cross-sectional analysis of sleep-promoting and wake-promoting drug use on health, fatigue-related error, and near-crashes in police officers. *BMJ Open*. 2018; 8(9):e022041. PMID: 30232109.
214. Zitting KM, Vujovic N, Yuan RK, Isherwood CM, Medina JE, Wang W, Buxton OM, Williams JW, **Czeisler CA**, Duffy JF. Human resting energy expenditure varies with circadian phase. *Curr Biol* 2018; 28(22):3685-3690.e3. PMID: 30416064.
215. Vandewalle G, van Ackeren MJ, Daneault V, Hull JT, Albouy G, Lepore F, Doyon J, **Czeisler CA**, Dumont M, Carrier J, Lockley SW, Collignon O. Light modulates oscillatory alpha activity in the occipital cortex of totally visually blind individuals with intact non-image-forming photoreception. *Sci Reports* 2018; 8(1):16968. PMID: 30446699.
216. Rhodes JA, Lane JM, Vlasac IM, Rutter MK, **Czeisler CA**, Saxena R. Association of DAT1 genetic variants with habitual sleep duration in the UK Biobank. *Sleep*. 2019 Jan 1;42(1):zsy193. doi: 10.1093/sleep/zsy193. PMID: 30299516; PMCID: PMC6335867.
217. Wolkow AP, Barger LK, O'Brien CS, Sullivan JP, Qadri S, Lockley SW, **Czeisler CA**, Rajaratnam SMW. Associations between sleep disturbances, mental health outcomes and burnout in firefighters, and the mediating role of sleep during overnight work: A cross-sectional study. *J Sleep Res*. 2019 May 26:e12869. doi:10.1111/jsr.12869. [Epub ahead of print] PubMed PMID: 31131535.
218. Barger LK, Sullivan JP, Blackwell T, O'Brien CS, St Hilaire MA, Rahman SA, Phillips AJK, Qadri S, Wright KP, Segar JL, McGuire JK, Vitiello MV, de la Iglesia HO, Poynter SE, Yu PL, Zee P, Sanderson AL, Halbower AC, Lockley SW, Landrigan CP, Stone KL, **Czeisler CA**; ROSTERS Study Group. Effects on Resident Work Hours, Sleep duration and work experience in a randomized order safety trial evaluating resident-physician schedules (ROSTERS). *Sleep*. 2019 May 20. pii:zsz110. doi: 10.1093/sleep/zsz110. [Epub ahead of print] PubMed PMID: 31106381.
219. Robbins R, Grandner MA, Buxton OM, Hale L, Buysse DJ, Knutson KL, Patel SR, Troxel WM, Youngstedt SD, **Czeisler CA**, Jean-Louis G. Sleep myths: an expert-led study to identify false beliefs about sleep that impinge upon population sleep health practices. *Sleep Health*. 2019 Apr 16. pii: S2352-

- 7218(19)30025-7. doi:10.1016/j.sleh.2019.02.002. [Epub ahead of print] PubMed PMID: 31003950.
220. 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, Rutter MK, Santhi N, Scheuermaier K, Van Reen E, Weedon MN, **Czeisler CA**, Scheer FAJL, Saxena R. Chronotype genetic variant in PER2 is associated with intrinsic circadian period in humans. *Sci Reports* 2019 Mar 29;9(1):5350. doi: 10.1038/s41598-019-41712-1. PubMed PMID: 30926824; PubMed Central PMCID: PMC6440993.
221. Blackwell T, Kriesel DR, Vittinghoff E, O'Brien CS, Sullivan JP, Viyaran NC, Rahman SA, Lockley SW, Barger LK, Halbower AC, Poynter SE, Wright KP Jr, Yu PL, Zee PC, Landrigan CP, **Czeisler CA**, Stone KL; ROSTERS Study Group. Design and recruitment of the randomized order safety trial evaluating resident-physician schedules (ROSTERS) study. *Contemp Clin Trials*. 2019 May;80:22-33. doi:10.1016/j.cct.2019.03.005. Epub 2019 Mar 15. PubMed PMID: 30885799; PubMed Central PMCID: PMC6482052.
222. McHill AW, **Czeisler CA**, Phillips AJK, Keating L, Barger LK, Garaulet M, Scheer FAJL, Klerman EB. Caloric and macronutrient intake differ with circadian phase and between lean and overweight young adults. *Nutrients*. 2019 Mar 11;11(3). pii: E587. doi: 10.3390/nu11030587. PubMed PMID: 30862011; PubMed Central PMCID: PMC6471585.
223. St Hilaire MA, Anderson C, Anwar J, Sullivan JP, Cade BE, Flynn-Evans EE, **Czeisler CA**, Lockley SW; Harvard Work Hours Health and Safety Group. Brief (<4 hr) sleep episodes are insufficient for restoring performance in first-year resident physicians working overnight extended-duration work shifts. *Sleep*. 2019 May 1;42(5). pii: zsz041. doi: 10.1093/sleep/zsz041. PubMed PMID: 30794317; PubMed Central PMCID: PMC6519906.
224. Rahman SA, Bibbo C, Olcese J, **Czeisler CA**, Robinson JN, Klerman EB. Relationship between endogenous melatonin concentrations and uterine contractions in late third trimester of human pregnancy. *J Pineal Res*. 2019 May;66(4):e12566. doi: 10.1111/jpi.12566. Epub 2019 Mar 10. PubMed PMID: 30739346; PubMed Central PMCID: PMC6453747.
225. McHill AW, Hull JT, Cohen DA, Wang W, **Czeisler CA**, Klerman EB. Chronic sleep restriction greatly magnifies performance decrements immediately after awakening. *Sleep*. 2019 May 1;42(5). pii: zsz032. doi: 10.1093/sleep/zsz032. PubMed PMID: 30722039; PubMed Central PMCID: PMC6519907.
226. Kronauer RE, St Hilaire MA, Rahman SA, **Czeisler CA**, Klerman EB. An exploration of the temporal dynamics of circadian resetting responses to short- and long-duration light exposures: Cross-species consistencies and differences. *J Biol Rhythms*. 2019;748730419862702. doi: 10.1177/0748730419862702. [Epub ahead of print] PubMed PMID: 31368391.
227. Fischer D, McHill AW, Sano A, Picard RW, Barger LK, **Czeisler CA**, Klerman EB, Phillips AJK. Irregular sleep and event schedules are associated with poorer self-reported well-being in US college students. *Sleep*. 2019 Dec 14. pii: zsz300. doi: 10.1093/sleep/zsz300. [Epub ahead of print] PubMed PMID: 31837266.
228. Peterson SA, Wolkow AP, Lockley SW, O'Brien CS, Qadri S, Sullivan JP, **Czeisler CA**, Rajaratnam SMW, Barger LK. Associations between shift work characteristics, shift work schedules, sleep and burnout in North American police officers: a cross-sectional study. *BMJ Open*. 2019 Dec

- 1;9(11):e030302. doi: 10.1136/bmjopen-2019-030302. PubMed PMID: 31791964; PubMed Central PMCID: PMC6924705.
229. 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 Nov 13;9(1):16681. doi: 10.1038/s41598-019-52930-y. PubMed PMID: 31723161; PubMed Central PMCID: PMC6853981.
230. 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 and the progesterone/estradiol ratio. *Sleep*. 2019 Oct 31. [Epub ahead of print] *Sleep*. 2020 Feb 13;43(2):zsz227. doi:10.1093/sleep/zsz227. PMID: 31670824; PMCID: PMC7457328.
231. Rahman SA, Wright KP Jr, Lockley SW, **Czeisler CA**, Gronfier C. Characterizing the temporal dynamics of melatonin and cortisol changes in response to nocturnal light exposure. *Sci Rep*. 2019 Dec 23;9(1):19720. doi: 10.1038/s41598-019-54806-7. PubMed PMID: 31873098; PubMed Central PMCID: PMC6928018.
232. Swanson CM, Kohrt WM, Wolfe P, Wright KP Jr, Shea SA, Cain SW, Munch M, Vujović N, **Czeisler CA**, Orwoll ES, Buxton OM. Rapid suppression of bone formation marker in response to sleep restriction and circadian disruption in men. *Osteoporos Int*. 2019 Dec;30(12):2485-2493. doi: 10.1007/s00198-019-05135-y. Epub 2019 Aug 24. PubMed PMID: 31446439; PubMed Central PMCID: PMC6879850.
233. Chua EC, Sullivan JP, Duffy JF, Klerman EB, Lockley SW, Kristal BS, **Czeisler CA**, Gooley JJ. Classifying attentional vulnerability to total sleep deprivation using baseline features of Psychomotor Vigilance Test performance. *Sci Rep*. 2019 Aug 20;9(1):12102. doi: 10.1038/s41598-019-48280-4. PubMed PMID: 31431644; PubMed Central PMCID: PMC6702200.
234. Rahman SA, Grant LK, Gooley JJ, Rajaratnam SMW, **Czeisler CA**, Lockley SW. Endogenous circadian regulation of female reproductive hormones. *J Clin Endocrinol Metab*. 2019 Dec 1;104(12):6049-6059. doi: 10.1210/jc.2019-00803. PubMed PMID: 31415086; PubMed Central PMCID: PMC6821202.
235. Burks SV, Anderson JE, Panda B, Haider HS, Haider R, Shi D, Li Y, Cagle M, Ostroushko D, Sun Z, Zaharick J, Hickman J, Mabry E, Berger M, **Czeisler C**, Kales SN. The pre-registry commercial driver medical examination: screening sensitivity and certification lengths for two safety-related medical conditions. *J Occup Environ Med*. 2020 Mar;62(3):237-245. doi: 10.1097/JOM.0000000000001816. PMID: 31977920.
236. Stack N, Zeitzer JM, **Czeisler C**, Diniz Behn C. Estimating Representative Group Intrinsic Circadian Period from Illuminance-Response Curve Data. *J Biol Rhythms*. 2020 Apr;35(2):195-206. doi: 10.1177/0748730419886992. Epub 2019 Nov 29. PMID: 31779499.
237. Burks SV, Anderson JE, Panda B, Haider R, Ginader T, Sandback N, Pokutnaya D, Toso D, Hughes N, Haider HS, Brockman R, Toll A, Solberg N, Eklund J, Cagle M, Hickman JS, Mabry E, Berger M, **Czeisler CA**, Kales SN. Employer-mandated obstructive sleep apnea treatment and healthcare cost savings among truckers. *Sleep*. 2019 Oct 24 [Epub ahead of print] *Sleep*. 2020 Apr 15;43(4):zsz262. doi: 10.1093/sleep/zsz262. PMID: 31648298; PMCID: PMC7457325.

238. Amira SA, Bressler BL, Lee JH, **Czeisler CA**, Duffy JF. Psychological screening for exceptional environments: laboratory circadian rhythm and sleep research. *Clocks Sleep*. 2020 Apr 15;2(2):13. doi: 10.3390/clockssleep2020013. PMID: 33089194; PMCID: PMC7445832.
239. Azarbarzin A, Younes M, Sands SA, Wellman A, Redline S, **Czeisler CA**, Gottlieb DJ. Interhemispheric sleep depth coherence predicts driving safety in sleep apnea. *J Sleep Res*. 2020 May 22:e13092. doi: 10.1111/jsr.13092. Epub ahead of print. PMID: 32441843.
240. Yuan RK, Zitting KM, Wang W, Buxton OM, Williams JS, Duffy JF, **Czeisler CA**. Fasting blood triglycerides vary with circadian phase in both young and older people. *Physiol Rep*. 2020 Jun;8(11):e14453. doi: 10.14814/phy2.14453. PMID: 32519460; PMCID: PMC7283043.
241. Fischer D, McHill AW, Sano A, Picard RW, Barger LK, **Czeisler CA**, Klerman EB, Phillips AJK. Irregular sleep and event schedules are associated with poorer self-reported well-being in US college students. *Sleep*. 2020 Jun 15;43(6):zsz300. doi: 10.1093/sleep/zsz300. PMID: 31837266; PMCID: PMC7294408.
242. Czeisler MÉ, Tynan MA, Howard ME, Honeycutt S, Fulmer EB, Kidder DP, Robbins R, Barger LK, Facer-Childs ER, Baldwin G, Rajaratnam SMW, **Czeisler CA**. Public attitudes, behaviors, and beliefs related to COVID-19, stay-at-home orders, nonessential business closures, and public health guidance - United States, New York City, and Los Angeles, May 5-12, 2020. *MMWR Morb Mortal Wkly Rep*. 2020 Jun 19;69(24):751-758. doi: 10.15585/mmwr.mm6924e1. PMID: 32555138; PMCID: PMC7302477.
243. Daniel DA, Poynter SE, Landrigan CP, **Czeisler CA**, Burns JP, Wolbrink TA. Pediatric resident engagement with an online critical care curriculum during the intensive care rotation. *Pediatr Crit Care Med*. 2020 Jun 25. DOI: <https://doi.org/10.1097/PCC.0000000000002477>. Epub ahead of print. PMID: 32590830.
244. Landrigan CP, Rahman SA, Sullivan JP, Vittinghoff E, Barger LK, Sanderson AL, Wright KP Jr, O'Brien CS, Qadri S, St Hilaire MA, Halbower AC, Segar JL, McGuire JK, Vitiello MV, de la Iglesia HO, Poynter SE, Yu PL, Zee PC, Lockley SW, Stone KL, **Czeisler CA**; ROSTERS Study Group. Effect on patient safety of a resident physician schedule without 24-hour shifts. *N Engl J Med*. 2020 Jun 25;382(26):2514-2523. DOI: <https://doi.org/10.1056/NEJMoa1900669>. PMID: 32579812; PMCID: PMC7405505.
245. Swanson CM, Shea SA, Kohrt WM, Wright KP, Cain SW, Munch M, Vujović N, **Czeisler CA**, Orwoll ES, Buxton OM. Sleep restriction with circadian disruption negatively alter bone turnover markers in women. *J Clin Endocrinol Metab*. 2020 Jul 1;105(7):2456–63. DOI: <https://doi.org/10.1210/clinem/dgaa232>. PMID: 32364602; PMCID: PMC7448297.
246. Weaver MD, Landrigan CP, Sullivan JP, O'Brien CS, Qadri S, Viyaran N, Wang W, Vetter C, **Czeisler CA**, Barger LK. The association between resident physician work-hour regulations and physician safety and health. *Am J Med*. 2020 Jul;133(7):e343-e354. DOI: <https://doi.org/10.1016/j.amjmed.2019.12.053>. Epub 2020 Feb 13. PMID: 32061733; PMCID: PMC7469904.
247. Czeisler MÉ, Lane RI, Petrosky E, Wiley JF, Christensen A, Njai R, Weaver MD, Robbins R, Facer-Childs ER, Barger LK, **Czeisler CA**, Howard ME, Rajaratnam SMW. Mental health, substance use, and suicidal ideation during the COVID-19 pandemic—United States, June 24-30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020 Aug 14;69(32):1049-1057. DOI: <https://doi.org/10.15585/mmwr.mm6932a1>.

PMID: 32790653; PMCID:PMC7440121.

248. Czeisler MÉ, Marynak K, Clarke KEN, Salah Z, Shakya I, Thierry JM, Ali N, McMillan H, Wiley JF, Weaver MD, **Czeisler CA**, Rajaratnam SMW, Howard ME. Delay or avoidance of medical care because of COVID-19-related concerns—United States, June 2020. *MMWR Morb Mortal Wkly Rep*. 2020 Sep 11;69(36):1250-1257. DOI: <https://doi.org/10.15585/mmwr.mm6936a4>. PMID: 32915166; PMCID: PMC7499838.
249. Grant LK, **Czeisler CA**, Lockley SW, Rahman SA. Time-of-day and meal size effects on clinical lipid markers. *J Clin Endocrinol Metab*. 2020 Oct 14:dga739. DOI: <https://doi.org/10.1210/clinem/dgaa739>. Epub ahead of print. PMID: 33051649.
250. Barger LK, Sullivan JP, Lockley SW, **Czeisler CA**. Exposure to short wavelength-enriched white light and exercise improves alertness and performance in operational NASA flight controllers working overnight shifts. *J Occup Environ Med*. 2020 Oct 14. DOI: <https://doi.org/10.1097/JOM.0000000000002054>. Epub ahead of print. PMID: 33065729.
251. Czeisler MÉ, Garcia-Williams AG, Molinari N, Gharpure R, Li Y, Barrett CE, Robbins R, Facer-Childs ER, Barger LK, **Czeisler CA**, Rajaratnam SMW, Howard ME. Demographic characteristics, experiences, and beliefs associated with hand hygiene among adults during the COVID-19 pandemic — United States, June 24–30, 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:1485–1491. DOI: <http://dx.doi.org/10.15585/mmwr.mm6941a3>
252. Robbins R, Weaver MD, Quan SF, Rosenberg E, Barger LK, Czeisler CA, Grandner MA. Employee Sleep Enhancement and Fatigue Reduction Programs: Analysis of the 2017 CDC Workplace Health in America Poll. *Am J Health Promot*. 2021 May;35(4):503-513. DOI: <https://doi.org/10.1177/0890117120969091>. Epub 2020 Nov 11. PMID: 33172286.
253. Robbins R, DiClemente RJ, Troxel AB, Jean-Louis G, Butler M, Rapoport DM, **Czeisler CA**. Sleep medication use and incident dementia in a nationally representative sample of older adults in the US. *Sleep Med*. 2020 Nov 11:S1389-9457(20)30496-2. DOI: <http://10.1016/j.sleep.2020.11.004>. Epub ahead of print. PMID: 33248901.
254. McHill AW, Hilditch CJ, Fischer D, **Czeisler CA**, Garaulet M, Scheer FAJL, Klerman EB. Stability of the timing of food intake at daily and monthly timescales in young adults. *Sci Rep*. 2020 Nov 30;10(1):20849. DOI: <http://10.1038/s41598-020-77851-z>. PMID: 33257712; PMCID: PMC7705740.
255. Weaver MD, Robbins R, Quan SF, O'Brien CS, Viyaran NC, **Czeisler CA**, Barger LK. Association of Sleep Disorders with Physician Burnout. *JAMA Netw Open*. 2020 Oct 1;3(10):e2023256. DOI: <http://10.1001/jamanetworkopen.2020.23256>. PMID: 33125492; PMCID: PMC7599440.
256. Rahman SA, Sullivan JP, Barger LK, St Hilaire MA, O'Brien CS, Stone KL, Phillips AJK, Klerman EB, Qadri S, Wright KP Jr, Halbower AC, Segar JL, McGuire JK, Vitiello MV, de la Iglesia HO, Poynter SE, Yu PL, Sanderson AL, Zee PC, Landrigan CP, **Czeisler CA**, Lockley SW; ROSTERS STUDY GROUP. Extended work shifts and neurobehavioral performance in resident-physicians. *Pediatrics*. 2021 Feb 22:e2020009936. DOI: <https://doi.org/10.1542/peds.2020-009936>. Epub ahead of print. PMID: 33619044.
257. Robbins R, Affouf M, Weaver MD, Czeisler MÉ, Barger LK, Quan SF, **Czeisler CA**. Estimated sleep

- duration before and during the COVID-19 pandemic in major metropolitan areas on different continents: Observational study of smartphone App data. *J Med Internet Res.* 2021; 23(2):e20546. DOI: <https://doi.org/10.2196/20546>. Erratum in: *J Med Internet Res.* 2021 Feb 22;23(2):e28057. PMID: 33493126; PMCID: PMC7857389.
258. McHill AW, Sano A, Hilditch CJ, Barger LK, **Czeisler CA**, Picard R, Klerman EB. Robust stability of melatonin circadian phase, sleep metrics, and chronotype across months in young adults living in real-world settings. *J Pineal Res.* 2021 Feb 1:e12720. DOI: <https://doi.org/10.1111/jpi.12720>. Epub ahead of print. PMID: 33523499.
259. Robbins R, Quan SF, Weaver MD, Bormes G, Barger LK, **Czeisler CA**. Examining sleep deficiency and disturbance and their risk for incident dementia and all-cause mortality in older adults across 5 years in the United States. *Aging (Albany NY).* 2021 Feb 11;13(3):3254-3268. DOI: <https://doi.org/10.18632/aging.202591>. Epub 2021 Feb 11. PMID: 33570509.
260. Czeisler MÉ, Lane RI, Wiley JF, **Czeisler CA**, Howard ME, Rajaratnam SMW. Follow-up survey of US adult reports of mental health, substance use, and suicidal ideation during the COVID-19 pandemic, September 2020. *JAMA Netw Open.* 2021 Feb 1;4(2):e2037665. DOI: <https://doi.org/10.1001/jamanetworkopen.2020.37665>. PMID: 33606030.
261. Rahman SA, Brainard GC, **Czeisler CA**, Lockley SW. Spectral sensitivity of circadian phase resetting, melatonin suppression and acute alerting effects of intermittent light exposure. *Biochem Pharmacol.* 2021 Sep;191:114504. doi: 10.1016/j.bcp.2021.114504. Epub 2021 Mar 10. PMID: 33711285.
262. Czeisler MÉ, Howard ME, Robbins R, Barger LK, Facer-Childs ER, Rajaratnam SMW, **Czeisler CA**. Early public adherence with and support for stay-at-home COVID-19 mitigation strategies despite adverse life impact: a transnational cross-sectional survey study in the United States and Australia. *BMC Public Health.* 2021 Mar 15;21(1):503. DOI: <https://doi.org/10.1186/s12889-021-10410-x>. PMID: 33722226; PMCID: PMC7957462.
263. Weaver MD, Sletten TL, Foster RG, Gozal D, Klerman EB, Rajaratnam SMW, Roenneberg T, Takahashi JS, Turek FW, Vitiello MV, Young MW, **Czeisler CA**. Adverse impact of polyphasic sleep patterns in humans: Report of the National Sleep Foundation sleep timing and variability consensus panel. *Sleep Health.* 2021 Mar 29:S2352-7218(21)00030-9. DOI: <https://doi.org/10.1016/j.sleh.2021.02.009>. Epub ahead of print. PMID: 33795195..
264. Bazzi LA, Sigurdardottir LG, Sigurdsson S, Valdimarsdottir U, Torfadottir J, Aspelund T, **Czeisler CA**, Lockley SW, Jonsson E, Launer L, Harris T, Gudnason V, Mucci LA, Markt SC. Exploratory assessment of pineal gland volume, composition, and urinary 6-sulfatoxymelatonin levels on prostate cancer risk. *Prostate.* 2021 Jun;81(8):487-496. doi: 10.1002/pros.24130. Epub 2021 Apr 16. PMID: 33860950; PMCID: PMC8194005.
265. Czeisler MÉ, Wiley JF, **Czeisler CA**, Rajaratnam SMW, Howard ME. Uncovering survivorship bias in longitudinal mental health surveys during the COVID-19 pandemic. *Epidemiol Psychiatr Sci.* 2021 May 26;30:e45. DOI: <https://doi.org/10.1017/S204579602100038X>. PMID: 34036933; PMCID: PMC8207539.
266. Brown LS, St Hilaire MA, McHill AW, Phillips AJK, Barger LK, Sano A, **Czeisler CA**, Doyle FJ 3rd, Klerman EB. A classification approach to estimating human circadian phase under circadian alignment

- from actigraphy and photometry data. *J Pineal Res.* 2021 Aug;71(1):e12745. doi: 10.1111/jpi.12745. Epub 2021 Jun 20. PMID: 34050968.
267. Robbins R, Weaver MD, Barger LK, Wang W, Quan SF, **Czeisler CA**. Sleep difficulties, incident dementia and all-cause mortality among older adults across 8 years: Findings from the National Health and Aging Trends Study. *J Sleep Res.* 2021 Jun 2:e13395. DOI: <https://doi.org/10.1111/jsr.13395>. Epub ahead of print. PMID: 34080234.
268. Czeisler MÉ, Kennedy JL, Wiley JF, Facer-Childs ER, Robbins R, Barger LK, **Czeisler CA**, Rajaratnam SMW, Howard ME. Delay or avoidance of routine, urgent and emergency medical care due to concerns about COVID-19 in a region with low COVID-19 prevalence: Victoria, Australia. *Respirology.* 2021 Jul;26(7):707-712. doi: 10.1111/resp.14094. Epub 2021 Jun 3. PMID: 34081819; PMCID: PMC8242886.
269. Czeisler MÉ, Wiley JF, Facer-Childs ER, Robbins R, Weaver MD, Barger LK, **Czeisler CA**, Howard ME, Rajaratnam SMW. Mental health, substance use, and suicidal ideation during a prolonged COVID-19-related lockdown in a region with low SARS-CoV-2 prevalence: Relationships with demographics, sleep, and behavioural changes and comparisons with acute-phase lockdowns. *J Psychiatr Res.* 2021 Aug;140:533-544. doi: 10.1016/j.jpsychires.2021.05.080. Epub 2021 Jun 4. PMID: 34174556; PMCID: PMC8177437.
270. Grant LK, St Hilaire MA, Brainard GC, **Czeisler CA**, Lockley SW, Rahman SA. Endogenous circadian regulation and phase resetting of clinical metabolic biomarkers. *J Pineal Res.* 2021 Jun 12:e12752. DOI: <https://doi.org/10.1111/jpi.12752>. Epub ahead of print. PMID: 34118084.
271. Czeisler MÉ, Rohan EA, Melillo S, Matjasko JL, DePadilla L, Patel CG, Weaver MD, Drane A, Winnay SS, Capodilupo ER, Robbins R, Wiley JF, Facer-Childs ER, Barger LK, **Czeisler CA**, Howard ME, Rajaratnam SMW. Mental Health Among Parents of Children Aged <18 Years and Unpaid Caregivers of Adults During the COVID-19 Pandemic - United States, December 2020 and February-March 2021. *MMWR Morb Mortal Wkly Rep.* 2021 Jun 18;70(24):879-887. DOI: <https://doi.org/10.15585/mmwr.mm7024a3>. PMID: 34138835.
272. Robbins R, Weaver MD, Czeisler MÉ, Barger LK, Quan SF, **Czeisler CA**. Associations between changes in daily behaviors and self-reported feelings of depression and anxiety about the COVID-19 pandemic among older adults. *J Gerontol B Psychol Sci Soc Sci.* 2021 Jun 22:gab110. DOI: <https://doi.org/10.1093/geronb/gab110>. Epub ahead of print. PMID: 34156467.
273. Epstein LJ, Cai A, Klerman EB, **Czeisler CA**. Resolving delayed sleep-wake phase disorder with a pandemic: two case reports. *J Clin Sleep Med.* 2021 Jul 13. doi: 10.5664/jcsm.9526. Epub ahead of print. PMID: 34254935.
274. Emens JS, Hilaire MAS, Klerman EB, Brotman DJ, Lin AL, Lewy AJ, **Czeisler CA**. Behaviorally and environmentally induced non-24-hour sleep-wake rhythm disorder in sighted patients. *J Clin Sleep Med.* 2021 Aug 17. doi: 10.5664/jcsm.9612. Epub ahead of print. PMID: 34402783.
275. Czeisler MÉ, Board A, Thierry JM, **Czeisler CA**, Rajaratnam SMW, Howard ME, Clarke KEN. Mental Health and Substance Use Among Adults with Disabilities During the COVID-19 Pandemic - United States, February-March 2021. *MMWR Morb Mortal Wkly Rep.* 2021 Aug 27;70(34):1142-1149. doi:

- 10.15585/mmwr.mm7034a3. PMID: 34437518; PMCID: PMC8389385.
276. Czeisler MÉ, Drane A, Winnay SS, Capodilupo ER, **Czeisler CA**, Rajaratnam SM, Howard ME. Mental health, substance use, and suicidal ideation among unpaid caregivers of adults in the United States during the COVID-19 pandemic: Relationships to age, race/ethnicity, employment, and caregiver intensity. *J Affect Disord.* 2021 Dec 1;295:1259-1268. doi: 10.1016/j.jad.2021.08.130. Epub 2021 Sep 3. PMID: 34706440; PMCID: PMC8413485.
277. Yuan RK, Zitting KM, Duffy JF, Vujovic N, Wang W, Quan SF, Klerman EB, Scheer FAJL, Buxton OM, Williams JS, **Czeisler CA**. Chronic Sleep Restriction While Minimizing Circadian Disruption Does Not Adversely Affect Glucose Tolerance. *Front Physiol.* 2021 Oct 20;12:764737. doi: 10.3389/fphys.2021.764737. PMID: 34744800; PMCID: PMC8564292.
278. Czeisler MÉ, Barrett CE, Siegel KR, Weaver MD, **Czeisler CA**, Rajaratnam SMW, Howard ME, Bullard KM. Health Care Access and Use Among Adults with Diabetes During the COVID-19 Pandemic - United States, February-March 2021. *MMWR Morb Mortal Wkly Rep.* 2021 Nov 19;70(46):1597-1602. doi: 10.15585/mmwr.mm7046a2. PMID: 34793416; PMCID: PMC8601412.
279. Koller DP, Kasanin V, Flynn-Evans EE, Sullivan JP, Dijk DJ, **Czeisler CA**, Barger LK. Altered sleep spindles and slow waves during space shuttle missions. *NPJ Microgravity.* 2021 Nov 18;7(1):48. doi: 10.1038/s41526-021-00177-1. PMID: 34795291; PMCID: PMC8602337.
280. Klerman EB, Barbato G, **Czeisler CA**, Wehr TA. Can People Sleep Too Much? Effects of Extended Sleep Opportunity on Sleep Duration and Timing. *Front Physiol.* 2021 Dec 22;12:792942. doi: 10.3389/fphys.2021.792942. PMID: 35002775; PMCID: PMC8727775.
281. Chellappa SL, Qian J, Vujovic N, Morris CJ, Nedeltcheva A, Nguyen H, Rahman N, Heng SW, Kelly L, Kerlin-Monteiro K, Srivastav S, Wang W, Aeschbach D, **Czeisler CA**, Shea SA, Adler GK, Garaulet M, Scheer FAJL. Daytime eating prevents internal circadian misalignment and glucose intolerance in night work. *Sci Adv.* 2021 Dec 3;7(49):eabg9910. doi: 10.1126/sciadv.abg9910. Epub 2021 Dec 3. PMID: 34860550; PMCID: PMC8641939.
282. Robbins R, Weaver MD, Quan SF, Barger LK, Zhivotovsky S, Czeisler CA. The Hidden Cost of Caregiving: The Association Between Self-Assessed Caregiving-Related Awakenings and Nighttime Awakenings and Workplace Productivity Impairment Among Unpaid Caregivers to Older Adults in the US. *J Occup Environ Med.* 2022 Jan 1;64(1):79-85. doi: 10.1097/JOM.0000000000002355. PMID: 34412088; PMCID: PMC8727389. Epub ahead of print. 2021 Aug 18
283. Robbins R, Weaver MD, Quan SF, Sullivan JP, Cohen-Zion M, Glasner L, Qadri S, **Czeisler CA**, Barger LK. A clinical trial to evaluate the dayzz smartphone app on employee sleep, health, and productivity at a large US employer. *PLoS One.* 2022 Jan 5;17(1):e0260828. doi: 10.1371/journal.pone.0260828. PMID: 34986183; PMCID: PMC8730427.
284. Kent BA, Rahman SA, St Hilaire MA, Grant LK, Rüger M, **Czeisler CA**, Lockley SW. Circadian lipid and hepatic protein rhythms shift with a phase response curve different than melatonin. *Nat Commun.* 2022 Feb 3;13(1):681. doi: 10.1038/s41467-022-28308-6. PMID: 35115537.

285. Zitting KM, Vetrivelan R, Yuan RK, Vujovic N, Wang W, Bandaru SS, Quan SF, Klerman EB, Scheer FAJL, Buxton OM, Williams JS, Duffy JF, Saper CB, **Czeisler CA**. Chronic circadian disruption on a high-fat diet impairs glucose tolerance. *Metabolism*. 2022 Feb 9:155158. doi: 10.1016/j.metabol.2022.155158. Epub ahead of print. PMID: 35150732.
286. Xin Q, Yuan RK, Zitting KM, Wang W, Purcell SM, Vujovic N, Ronda JM, Quan SF, Williams JS, Buxton OM, Duffy JF, **Czeisler CA**. Impact of Chronic Sleep Restriction on Sleep Continuity, Sleep Structure, and Neurobehavioral Performance. *Sleep*. 2022 Feb 26:zsac046. doi: 10.1093/sleep/zsac046. Epub ahead of print. PMID: 35218665.
287. Qian J, Morris CJ, Phillips AJK, Li P, Rahman SA, Wang W, Hu K, Arendt J, **Czeisler CA**, Scheer FAJL. Unanticipated daytime melatonin secretion on a simulated night shift schedule generates a distinctive 24-h melatonin rhythm with antiphasic daytime and nighttime peaks. *J Pineal Res*. 2022 Apr;72(3):e12791. doi: 10.1111/jpi.12791. Epub 2022 Mar 10. PMID: 35133678; PMCID: PMC8930611.
288. Czeisler MÉ, Capodilupo ER, Weaver MD, **Czeisler CA**, Howard ME, Rajaratnam SM. Prior sleep-wake behaviors are associated with mental health outcomes during the COVID-19 pandemic among adult users of a wearable device in the United States. *Sleep Health*. 2022 Apr 15:S2352-7218(22)00018-3. doi: 10.1016/j.sleh.2022.03.001. Epub ahead of print. PMID: 35459638; PMCID: PMC9018118.
289. Duffy JF, Wang W, Ronda JM, **Czeisler CA**. High dose melatonin increases sleep duration during nighttime and daytime sleep episodes in older adults. *J Pineal Res*. 2022 Apr 18:e12801. doi: 10.1111/jpi.12801. Epub ahead of print. PMID: 35436355.
290. Rahman SA, St Hilaire MA, Grant LK, Barger LK, Brainard GC, **Czeisler CA**, Klerman EB, Lockley SW. Dynamic lighting schedules to facilitate circadian adaptation to shifted timing of sleep and wake. *J Pineal Res*. 2022 May 2:e12805. doi: 10.1111/jpi.12805. Epub ahead of print. PMID: 35501292.
291. Weaver MD, Landrigan CP, Sullivan JP, O'Brien CS, Qadri S, Viyaran N, **Czeisler CA**, Barger LK. National improvements in resident physician-reported patient safety after limiting first-year resident physicians' extended duration work shifts: a pooled analysis of prospective cohort studies. *BMJ Qual Saf*. 2022 May 10:bmjqs-2021-014375. doi: 10.1136/bmjqs-2021-014375. Epub ahead of print. PMID: 35537821.

Proceedings of Meetings

1. Moore-Ede MC, **Czeisler CA**, Schmelzer WS, Kass DA. Circadian internal desynchronization induced by circadian arrhythmias in synchronizing mediators: an etiological hypothesis. In: Halberg F, ed. Proceedings XII international conference, International Society for Chronobiology. Milan: Il Ponte, 1977:477-482.
2. Weitzman ED, Weinberg U, D'Elletto R, Lynch H, Wurtman R, **Czeisler C**, Erlich S. Studies of the 24 hour rhythm of melatonin in man. *J Neural Transm* 1978;13[Suppl.]:325-337.
3. Weitzman ED, **Czeisler CA**, Moore-Ede MC. Biological rhythms of man living in isolation from time cues. In: Nicholson AN, ed. Sleep, wakefulness and circadian rhythm. NATO-OTAN Advisory Group for Aerospace Research & Development, AGARD lecture series no. 105. Paris, France:NATO,1979:7/1-7/9.

4. Weitzman ED, **Czeisler CA**, Moore-Ede MC. Sleep-wake, neuroendocrine and body temperature circadian rhythms under entrained and non-entrained (free-running) conditions in man. In: Suda M, Hayaishi O, Nakagawa H, eds. Proceedings of the first international NAITO Foundation symposium on biological rhythms and their central mechanism. Amsterdam: Elsevier,1979:199-227.
5. Weitzman ED, **Czeisler CA**, Moore-Ede MC. Sleep-wake, endocrine and temperature rhythms in man during temporal isolation. In: Johnson LC, Tepas DI, Colquhoun WP, Colligan MJ, eds. The twenty-four hour workday: proceedings of a NIOSH symposium of variations in work-sleep schedules. Washington: NIOSH, 1981, publication 81-127:105-124.
6. Weitzman ED, **Czeisler CA**, Zimmerman JC, Ronda JM. The sleep-wake pattern of cortisol and growth hormone secretion during non-entrained (free-running) conditions in man. In: Nijhoff M, ed. Circadian and ultradian variations of pituitary hormones in man. Belgium,1981:29-41.
7. Weitzman ED, **Czeisler CA**, Zimmerman JC, Moore-Ede MC. Biological rhythms in man: relationship of sleep-wake, cortisol, growth hormone, and temperature during temporal isolation. In: Martin JB, Reichlin S, Bick KL, eds. Neurosecretion and brain peptides, Vol. 28. New York: Raven Press, 1981:475-499.
8. Weitzman ED, **Czeisler CA**, Zimmerman JC, Ronda JM. The sleep-wake pattern of cortisol and growth hormone secretion during non-entrained (free-running) conditions in man. In: Van Cauter E, Copinschi G, eds. Human pituitary hormones: development in endocrinology, vol. 1. Boston: Martinus Nijhoff, 1981:29-41.
9. Fookson J, Weitzman ED, **Czeisler CA**, Zimmerman JC, Ronda JM. Development of mathematical techniques to describe chronophysiological rhythms in man during temporal isolation. Proceedings of the 15th international conference of the International Society for Chronobiology. Basel: S. Karger, 1982:73-81.
10. Guilleminault C, **Czeisler C**, Coleman R, Miles L. Circadian rhythm disturbances and sleep disorders in shift workers. In: Buser PA, Cobb WA, Okuma T, eds. Kyoto Symposia. *Electroencephalogr Clin Neurophysiol Suppl.* 1982;36:709-714. PMID: 6962057.
11. Kronauer RE, **Czeisler CA**, Pilato SF, Moore-Ede MC, Weitzman ED. Mathematical representation of the human circadian system: two interacting oscillators which affect sleep. In: Chase MH, ed. Sleep disorders: basic and clinical research. Spectrum Publications, Inc., 1983:173-194.
12. **Czeisler CA**, Moore-Ede MC, Coleman RM. Resetting circadian clocks: applications to sleep disorders medicine and occupational health. In: Guilleminault C, Lugaresi E, eds. Sleep/wake disorders: natural history, epidemiology and long-term evolution. New York: Raven Press, 1983:243-260.
13. **Czeisler CA**, Kennedy WA, Allan JS. Circadian rhythms and performance decrements in the transportation industry. In: Proceedings, Workshop on the effects of automation on operator performance. Coblenz AM, ed. Commission of the European Communities, Medical and Public Health Research Program, Université René Descartes: Paris, 1986:146-171.
14. Willich SN, **Czeisler CA**, Tofler GH, Ludmer P, Aylmer G, Rutherford J, Stone P, Muller J. Circadian variation in the frequency of occurrence of acute cardiovascular disease. In: Reinberg A, Smolensky M, Labrecque G, eds. Annual review of chronopharmacology. Oxford: Pergamon Press Ltd., 1986:vol

3,327-330.

15. **Czeisler CA**, Kronauer RE, Johnson MP, Allan JS, Johnson TS, Dumont M. Action of light on the human circadian pacemaker: treatment of patients with circadian rhythm sleep disorders. In: Horne J, ed. Sleep '88 - Proceedings of the ninth European congress on sleep research. Stuttgart: G. Fischer Verlag, 1989:42-47.
16. Richardson GS, Miner JD, **Czeisler CA**. Impaired driving performance in shift workers: the role of the circadian system in a multifactorial model. In: Moskowitz H, ed. Alcohol, drugs and driving. Los Angeles: Alcohol Information Service, 1990:265-273.
17. **Czeisler CA**, Rogacz S, Duffy JF. Reproductive function in women: circadian interaction. In: Naftolin F, Gutmann JN, DeCherney AH, Sarrel PM, eds. Ovarian secretions and cardiovascular and neurological function. New York: Raven Press, 1990:239-247.
18. Mermin JH, **Czeisler CA**. Continuous body temperature monitoring at varying levels of physical exertion in cross-country bicyclists. In: Miles LE, Broughton RJ, eds. Medical monitoring in the home and work environment. New York: Raven Press, 1990:165-174.
19. **Czeisler CA**, Allan JS, Kronauer RE. A method for assaying the effects of therapeutic agents on the period of the endogenous circadian pacemaker in man. In: Montplaisir J, Godbout R, eds. Sleep and biological rhythms: Basic mechanisms and applications to psychiatry. New York: Oxford University Press, 1990:87-98.
20. Wolf MA, Richardson G, **Czeisler CA**. Improved sleep: a means of reducing the stress of internship. In: Transactions of the American Clinical and Climatological Association, vol 102. New York: Waverly Press, 1990:225-231.
21. **Czeisler CA**, Chiasera AJ, Duffy JF. Research on sleep, circadian rhythms and aging: applications to manned spaceflight. *Exp Gerontol* 1991;26:217-232.
22. Dijk DJ, Duffy JF, **Czeisler CA**. Circadian and sleep/wake dependent aspects of subjective alertness and cognitive performance. *J Sleep Res* 1992;1:112-117.
23. Kronauer RE, **Czeisler CA**. Understanding the use of light to control the circadian pacemaker in humans. In: Wetterberg L, ed. Light and biological rhythms in man. Oxford: Pergamon Press, 1993:217-236.
24. **Czeisler CA**, Dijk DJ, Duffy JF. Entrained phase of the circadian pacemaker serves to stabilize alertness and performance throughout the waking day. In: J.R. Harsh and R.D. Ogilvie, eds. Sleep onset: Normal and abnormal processes. American Psychological Association, Washington, D.C., 1994:89-110.
25. Åkerstedt TA, **Czeisler CA**, Dinges DF, Horne JA. Accidents and sleepiness: a consensus statement from the International Conference on Work Hours, Sleepiness and Accidents, Stockholm, 8-10 September 1994. *J Sleep Res* 1994;3:195.
26. **Czeisler CA**. The effect of light on the human circadian pacemaker. In: Circadian clocks and their adjustment. John Wiley and Sons, Inc., Chichester (Ciba Found Symp 183) 1995:254-302.
27. **Czeisler CA**, Dijk D-J. Use of bright light to treat maladaptation to night shift work and circadian

rhythm sleep disorders. *J Sleep Res* 1995;4:70-73.

28. **Czeisler CA.** Melatonin, bright light and overnight operations. In: Fatigue symposium proceedings, National Transportation Safety Board and NASA Ames Research Center, Washington, D.C., 1995: 59-69.
29. **Czeisler CA.** Alertness during space flight: lessons for the earthbound. International conference proceedings: Managing fatigue in transportation. American Trucking Association Foundation, Inc., Alexandria, VA. (Government Institutes, Inc., Rockville, Maryland) 1997: 51-60.
30. Belenky G, **Czeisler CA**, Åkerstedt T (Donohue, T, Moderator). Multi-modal Perspective on Fatigue. American Trucking Association Foundation, Inc., Alexandria, VA. (Government Institutes, Inc., Rockville, Maryland) 1997: 61-68.
31. Kronauer RE, Jewett, ME, **Czeisler CA.** Modeling human circadian phase and amplitude resetting. In: Y. Touitou, ed. Biological clocks: Mechanisms and applications. Amsterdam: Elsevier Science, B.V., International Congress Series 1152: 1998: 63-72.
32. **Czeisler CA**, Klerman EB. Circadian and sleep-dependent regulation of hormone release in humans. *Recent Prog Horm Res* 1999, 54: 97-132.
33. **Czeisler CA**, Brown EN. Commentary: Models of the effect of light on the human circadian system: Current state of the art. *J Biol Rhythms* 1999; 14:538-543.
34. Hilton MF, Umali MU, **Czeisler CA**, Wyatt JK, Shea SA. Endogenous circadian control of the human autonomic nervous system. *Comput Cardiol* 2000; 27:197-200.
35. **Czeisler CA.** Gordon Wilson Lecture: Work Hours, Sleep and Patient Safety in Residency Training. *Trans Am Clin Climatol Assoc* 2006; 117: 159-188.
36. **Czeisler CA**, Gooley JJ. Sleep and Circadian Rhythms in Humans. In: Cold Spring Harbor Symposia on Quantitative Biology: Clocks and Rhythms, 2007; 72:579-97.
37. **Czeisler CA.** Medical and genetic differences in the adverse impact of sleep loss on performance: ethical considerations for the medical profession. *Trans Am Clin Climatol Assoc* 2009; 120:249-85.
38. **Czeisler CA.** Impact of sleepiness and sleep deficiency on public health--utility of biomarkers. *J Clin Sleep Med* 2011; 7(5 Suppl):S6-8.
39. Mullington JM, **Czeisler CA**, Goel N, Krueger JM, Balkin TJ, Johns M, Shaw PJ. Panel discussion: current status of measuring sleepiness. *J Clin Sleep Med* 2011; 7(5 Suppl):S22-5.
40. **Czeisler CA**, Pellegrini CA, Sade RM. Should sleep-deprived surgeons be prohibited from operating without patients' consent? *Ann Thorac Surg* 2013; 95(2):757-66. PMID: 23336899.
41. Arble DM, Bass J, Behn CD, Butler MP, Challet E, **Czeisler C**, Depner CM, Elmquist J, Franken P, Grandner MA, Hanlon EC, Keene AC, Joyner MJ, Karatsoreos I, Kern PA, Klein S, Morris CJ, Pack AI, Panda S, Ptacek LJ, Punjabi NM, Sassone-Corsi P, Scheer FA, Saxena R, Seaquest ER, Thimman MS, Van Cauter E, Wright KP. Impact of sleep and circadian disruption on energy balance and diabetes: a summary of workshop discussions. *Sleep* 2015; 38(12):1849-1860. PMID: 26564131. PMCID:

PMC4667373.

42. **Czeisler CA**, Wickwire EM, Barger LK, Dement WC, Gamble K, Hartenbaum N, Ohayon MM, Pelayo R, Phillips B, Strohl K, Tefft B, Rajaratnam SMW, Malhotra R, Whiton K, Hirshkowitz M. Sleep-deprived motor vehicle operators are unfit to drive: a multidisciplinary expert consensus statement on drowsy driving. *Sleep Health* 2016; 2(2):94-99.
43. Higgins JS, Michael J, Austin R, Åkerstedt T, Van Dongen HP, Watson N, **Czeisler C**, Pack AI, Rosekind MR. Asleep at the Wheel-The Road to Addressing Drowsy Driving. *Sleep*. 2017 Feb 1;40(2). doi: 10.1093/sleep/zsx001. PMID: 28364516.
44. Brown TM, Brainard GC, Cajochen C, **Czeisler CA**, Hanifin JP, Lockley SW, Lucas RJ, Münch M, O'Hagan JB, Peirson SN, Price LLA, Roenneberg T, Schlangen LJM, Skene DJ, Spitschan M, Vetter C, Zee PC, Wright KP Jr. Recommendations for daytime, evening, and nighttime indoor light exposure to best support physiology, sleep, and wakefulness in healthy adults. *PLoS Biol*. 2022 Mar 17;20(3):e3001571. doi: 10.1371/journal.pbio.3001571. PMID: 35298459; PMCID: PMC8929548.

Reviews and Educationally Relevant Publications

1. **Czeisler CA**, Guilleminault C. 250 years ago: tribute to a new discipline [1729-1979]. *Sleep* 1979;2:155-160.
2. **Czeisler CA**, Guilleminault C. Editorial - REM sleep: a workshop on its temporal distribution. *Sleep* 1980;2:285-286.
3. **Czeisler CA**, Borbély A, Hume KI, Kobayashi T, Kronauer RE, Schulz H, Weitzman ED, Zimmerman J, Zulley J. Glossary of standardized terminology for sleep-biological rhythm research. *Sleep* 1980;2:287-288.
4. Moore-Ede MC, Gander P, **Czeisler CA**. Importance of circadian time of day effects in scheduling aircrew: a proposed modification to Federal Aviation Administration rules. Response to Federal Register Docket no. 17669, 1980.
5. Weitzman ED, **Czeisler CA**, Zimmerman JC, Ronda JM, Knauer RS. Chronobiological disorders: analytic and therapeutic techniques. In: Guilleminault C, Ed. Disorders of Sleeping and Waking: Indications and Techniques. Reading, MA: Addison-Wesley, 1981: 297-329.
6. Weitzman ED, **Czeisler CA**, Zimmerman JC, Moore-Ede MC. Biological rhythms in man: relationship of sleep-wake, cortisol, growth hormone, and temperature during temporal isolation. *Adv Biochem Psychopharmacol* 1981; 28: 475-499.
7. **Czeisler CA**. Sleep, biological clocks, and health. From: Health and Behavior: a Research Agenda. Report of the Institute of Medicine, U.S. National Academy of Sciences, Washington, DC: National Academy Press, 1982: 108-123.
8. Moore-Ede MC, **Czeisler CA**, Richardson GS. Circadian timekeeping in health and disease: part I. *N Engl J Med* 1983;309:469-476.
9. Moore-Ede MC, **Czeisler CA**, Richardson GS. Circadian timekeeping in health and disease: part II. *N*

Engl J Med 1983;309:530-536.

10. **Czeisler CA.** Testimony at hearings before the Subcommittee on Investigations and Oversight of the Committee on Science and Technology, House of Representatives; Biological Clocks and Shift Work Scheduling, House of Representatives, 98th Congress, first session, March 23, 1983. Washington, DC: .S. Government Printing Office, 1983;vol. 7:171-232.
11. Dement W, Richardson G, Prinz P, Carskadon M, Kripke D, Czeisler C. Changes of sleep and wakefulness with age. In: Finch CE and Schneider EL, eds. Handbook of the biology of aging. New York: Van Nostrand Reinhold Co., 1985: 692-717.
12. **Czeisler CA.** Circadian rhythmicity and its disorders. In: Nicholson AN, Welbers IB, eds. Sleep and wakefulness: pharmacology and pathology. Ingelheim-am-Rhein: Boehringer Ingelheim Intl. GmbH, 1986; 6:1-49.
13. **Czeisler CA,** Kronauer RE, Mooney JJ, Anderson JL, Allan JS. Biologic rhythm disorders, depression, and phototherapy: a new hypothesis. *Psychiatr Clin North Am* 1987; 10:687-709.
14. Mitler MM, Carskadon MA, **Czeisler CA,** Dement WC, Dinges DF, Graeber RC. Catastrophes, sleep and public policy: consensus report. *Sleep* 1988;11:100-109.
15. **Czeisler CA,** Allan JS. Pathologies of the sleep-wake schedule. In: Williams RL, Karacan I, Moore C, eds. Sleep Disorders: diagnosis and treatment. New York: John Wiley & Sons, Inc., 1988: 109-129.
16. **Czeisler CA,** Jewett ME. Human circadian physiology: interaction of the behavioral rest-activity cycle with the output of the endogenous circadian pacemaker. In: Thorpy MJ, Ed. Handbook of Sleep Disorders. New York: Marcel Dekker, Inc., 1990: 117-137.
17. **Czeisler CA,** Richardson GS, Martin JB. Disorders of sleep and circadian rhythms. In: Wilson JD, Braunwald E, Fauci AS, Isselbacher KJ, Martin JB, Petersdorf RG, Root RK, eds. Harrison's Principles of Internal Medicine, 12th ed, New York: McGraw-Hill, Inc., 1991: 209-217.
18. **Czeisler CA,** Richardson GS. Detection and assessment of insomnia. *Clin Ther* 1991; 13:663-679.
19. Hastings JW, **Czeisler CA.** Day-night differences are not always due to circadian control. Comment. *Ann Emerg Med* 1992; 21: 1236.
20. Hayes B, **Czeisler CA.** Chronobiology of human sleep and sleep disorders. In: Touitou Y, Haus E, eds. Biologic Rhythms in Clinical and Laboratory Medicine, Berlin: Springer-Verlag, 1992: 256-264.
21. Kronauer RE, Jewett ME, **Czeisler CA.** The human circadian response to light: Strong *and* weak resetting. *J Biol Rhythms* 1993; 8:351-360.
22. **Czeisler CA.** Light. In: Carskadon MA, ed. Encyclopedia of Sleep and Dreaming, New York: Macmillan Publishing Co., 1993: 328-331.
23. **Czeisler CA,** Shapiro CM. Circadian Rhythm Disorders. In: Sleep Solutions. St-Laurent, Québec, Canada: Kommunikom Publications, 1993; 9:1-24.
24. **Czeisler CA,** Richardson GS, Martin JB. Disorders of sleep and circadian rhythms. In: Isselbacher KJ,

- Braunwald E, Wilson JD, Martin JB, Fauci AS, Kasper DL, eds. Harrison's Principles of Internal Medicine, 13th ed, New York: McGraw-Hill, Inc., 1994; 29:162-170.
25. **Czeisler CA**, Turek, FW. Is Melatonin a treatment for insomnia and jet lag? Goldberg JR, ed. National Sleep Foundation, Washington, D.C., 1997: 1-24.
 26. Shanahan TL, Zeitzer JM, **Czeisler CA**. Resetting the melatonin rhythm with light in humans. *J Biol Rhythms* 1997; 12: 556-567.
 27. **Czeisler CA**. Commentary: Evidence for melatonin as a circadian phase shifting agent. *J Biol Rhythms* 1997; 12: 618-623.
 28. **Czeisler CA**, Turek FW. Melatonin. *J Biol Rhythms* 1997; 12: 485-486.
 29. **Czeisler CA**, Richardson GS. Disorders of sleep and circadian rhythms. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, et al. eds. Harrison's Principles of Internal Medicine, 14th ed, New York: McGraw-Hill, Inc., 1997: 150-159.
 30. Turek FW, **Czeisler CA**. Role of melatonin in the regulation of sleep. In: Turek FW and Zee PC, eds. Regulation of Sleep and Circadian Rhythms (for series on Lung Biology in Health and Disease), New York: Marcel Dekker, Inc., 1999.
 31. **Czeisler CA**, Wright Jr, KP. Influence of light on circadian rhythmicity in humans. In: Turek FW and Zee PC, eds. Regulation of Sleep and Circadian Rhythms (for series on Lung Biology in Health and Disease), New York: Marcel Dekker, Inc., 1999: 147-180.
 32. **Czeisler CA**, Winkelman JW, Richardson GS. Sleep Disorders. In: Braunwald E, Fauci AS, Kasper DL, Hauser SL, Longo DL, Jameson JL. Harrison's Principles of Internal Medicine, 15th ed, New York: McGraw-Hill, Inc., 2001: Chapter 27.
 33. **Czeisler CA**, Dijk DJ. Human circadian physiology and sleep-wake regulation. In: Takahashi JS, Turek FW, Moore RY, eds. Handbook of Behavioral Neurobiology: Circadian Clocks, New York: Plenum Publishing Corporation, 2001.
 34. **Czeisler CA**, Cajochen C, Turek FW. Melatonin in the regulation of sleep and circadian rhythms. In: Kryger MH, Roth T, Dement WC, eds. Principles and Practice of Sleep Medicine, Philadelphia: W.B. Saunders Company, 2000: 400-406.
 35. **Czeisler CA**, Khalsa SBS. The human circadian timing system and sleep-wake regulation. In: Kryger MH, Roth T, Dement WC, eds. Principles and Practice of Sleep Medicine, Philadelphia: W.B. Saunders Company, 2000: 353-375.
 36. Dijk DJ, Duffy JF, **Czeisler CA**. Contribution of circadian physiology and sleep homeostasis to age-related changes in human sleep. *Chronobiol Int* 2000; 17:285-311.
 37. Shanahan TL, **Czeisler CA**. Physiological effects of light on the human circadian pacemaker. *Semin Perinatol* 2000; 24:299-320.
 38. Dijk, DJ, Neri DF, Wyatt JK, Ronda JM, Riel E, Ritz-DeCecco A, Hughes RJ, **Czeisler CA**. Sleep, circadian rhythms, and performance during space shuttle missions. In: The Neurolab Spacelab Mission:

Neuroscience Research in Space. 2002; 211-221.

39. Dijk, DJ, Buckley JC, Neri DF, Wyatt JK, Ronda JM, Reil E, Prisk GK, West JB, **Czeisler CA**. Portable sleep monitoring system. In: The Neurolab Spacelab Mission: Neuroscience Research in Space. 2002; 249-251.
40. **Czeisler CA**. Quantifying consequences of chronic sleep restriction. *Sleep* 2003; 26: 247-248.
41. **Czeisler CA**, Winkelman JW, Richardson GS. Sleep disorders. In: Braunwald E, Fauci AS, Kasper DL, Hauser SL, Longo DL, Jameson JL. Harrison's Principles of Internal Medicine, 16th ed, New York: McGraw-Hill, Inc., 2005:153-162.
42. **Czeisler CA**. Work hours and sleep in residency training. *Sleep* 2004; 27: 371-372.
43. Scheer FA, **Czeisler CA**. Melatonin, sleep, and circadian rhythms. *Sleep Med Rev* 2005; 9:5-9.
44. Scheer FAJL, Cajochen C, Turek FW, **Czeisler CA**. Melatonin in the regulation of sleep and circadian rhythms. In: Kryger MH, Roth T, Dement WC, eds. Principles and Practice of Sleep Medicine, 4th Edition. Philadelphia: W.B. Saunders Company, 2005:395-404.
45. **Czeisler CA**, Buxton OM, Khalsa SBS. The human circadian timing system and sleep-wake regulation. In: Kryger MH, Roth T, Dement WC, eds. Principles and Practice of Sleep Medicine, 4th Edition. Philadelphia: W.B. Saunders Company, 2005:375-394.
46. Lockley SW, Landrigan CP, Barger LK, **Czeisler CA**; Harvard Work Hours Health and Safety Group. When policy meets physiology: the challenge of reducing resident work hours. *Clin Orthop Relat Res*. 2006; 449:116-127.
47. **Czeisler CA**. Sleep deficit: the performance killer. A conversation with Harvard Medical School Professor Charles A. Czeisler. *Harv Bus Rev* 2006; 84: 53-59,148.
48. Lockley SW, Barger LK, Ayas NT, Rothschild JM, **Czeisler CA**, Landrigan CP. Effects of health care provider work hours and sleep deprivation on safety and performance. *Jt Comm J Qual Patient Saf* 2007; 33:7-18
49. Landrigan CP, **Czeisler CA**, Barger LK, Ayas NT, Rothschild JM, Lockley SW. Effective implementation of work-hour limits and systemic improvements. *Jt Comm J Qual Patient Saf* 2007; 33:19-29
50. **Czeisler CA**, Winkelman JW, Richardson GS. Sleep disorders. In: Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J, eds. Harrison's Principles of Internal Medicine, 17th Edition, New York: McGraw-Hill, Inc., 2008:171-180.
51. Duffy JF, **Czeisler CA**. Effect of light on human circadian physiology. *Sleep Med Clin* 2009; 4:165-177
52. **Czeisler CA**. Ethical considerations for the scheduling of work in continuous operations: physicians in training as a case study. In: Cappuccio FP, Miller MA, Lockley SW, eds. Sleep, Health and Society: From Aetiology to Public Health. Oxford, U.K.: Oxford University Press, 2010: 435-456.
53. **Czeisler CA**, Buxton OM. The human circadian timing system and sleep-wake regulation. In: Kryger

- MH, Roth T, Dement WC, eds. Principles and Practice of Sleep Medicine, 5th Edition. Philadelphia: W.B. Saunders Company, 2011.
54. **Czeisler CA**, Winkelman JW, Richardson GS. Sleep disorders. In: Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J, eds. Harrison's Principles of Internal Medicine, 18th Edition, New York: McGraw-Hill, Inc., 2010.
55. Balkin TJ, Horrey WJ, Graeber RC, **Czeisler CA**, Dinges DF. The challenges and opportunities of technological approaches to fatigue management. *Accid Anal Prev* 2011; 43(2):565-572.
56. Nurok M, **Czeisler CA**, Lehmann LS. Sleep deprivation, elective surgical procedures, and informed consent. *N Engl J Med* 2010; 363(27):2577-2579. PMID: 21190452
57. Blum AB, Shea S, **Czeisler CA**, Landrigan CP, Leape L. Implementing the 2009 Institute of Medicine recommendations on resident physician work hours, supervision, and safety. *Nature Sci Sleep* 2011; 3:47-85.
58. Lee CJ, Sanna RA, **Czeisler CA**. Public Policy, Sleep Science, and Sleep Medicine. In: Kushida C (ed) *The Encyclopedia of Sleep*, Vol 2. Waltham, MA: Academic Press, 2013: 156-166.
59. Cohen IG, **Czeisler CA**, Landrigan CP. Making Residency Work Hour Rules Work. *J Law Med Ethics* 2013; 4(1):310-314. PMID: 23581673.
60. **Czeisler CA**. Perspective: casting light on sleep deficiency. *Nature* 2013; 497(7450):S13. PMID:23698501
61. Duffy JF, Zitting K-M, **Czeisler CA**. The Case for Addressing Operator Fatigue. *Rev Human Factors Ergonomics* 2015; 10:29–78.
62. **Czeisler CA**, Scammell TE, Saper CB. Sleep disorders. In: Kasper DL, Fauci AS, Hauser SL, Longo DL, Jameson JL, Loscalzo J, eds. Harrison's Principles of Internal Medicine, 19th Edition, New York: McGraw-Hill, Inc., 2015.
63. Kales SN, **Czeisler CA**. Obstructive Sleep Apnea and Work Accidents: Time for Action. *Sleep* 2016; 39(6):1171-3. PMID: 27166231.
64. **Czeisler CA**. Measuring the passage of brain time. *Science* 2016; 353(6300):648-649. PMID: 27516585
65. **Czeisler CA**, Shanahan TL. Problems Associated With Use of Mobile Devices in the Sleep Environment-Streaming Instead of Dreaming. *JAMA Pediatr* 2016 Oct 31. [Epub ahead of print]. PMID: 27802458
66. **Czeisler CA**, Buxton OM. The human circadian timing system and sleep-wake regulation. In: Kryger MH, Roth T, Dement WC, eds. Principles and Practice of Sleep Medicine, 6th Edition. Philadelphia: W.B. Saunders Company, 2017.
67. Scammell TE, Saper CB, **Czeisler CA**. Sleep disorders. In: Fauci AS, Hauser SL, Jameson JL, Kasper DL, Longo D, and Loscalzo J, eds. Harrison's Principles of Internal Medicine, 20th Edition, New York: McGraw-Hill, Inc., 2018.

68. McHill AM, **Czeisler CA**, Shea SA. Editorial: Resident physician extended work hours and burnout. *Sleep* 2018; 41(8). PMID: 29901751.
69. **Czeisler CA**. Housing Immigrant Children - The Inhumanity of Constant Illumination. *New Engl J Med* 2018; 379(2): e3. PMID: 29932841.
70. Quan SF, Ziporyn PS, **Czeisler CA**. Sleep Education for College Students: The Time Is Now. *J Clin Sleep Med* 2018; 14(7):1269. PMID: 29991433.
71. Scammell TE, Saper CB, **Czeisler CA**. Sleep disorders. In: Fauci AS, Hauser SL, Jameson JL, Kasper DL, Longo D, and Loscalzo J, eds. Harrison's Principles of Internal Medicine, 21th Edition, New York: McGraw-Hill, Inc., 2021, in press.
72. Czeisler MÉ, Wiley JF, **Czeisler CA**, Rajaratnam SM, Howard ME. Tempering optimism from repeated longitudinal mental health surveys. *Lancet Psychiatry*. 2021 Apr;8(4):274-275. doi: 10.1016/S2215-0366(21)00045-6. PMID: 33743874.
73. Czeisler MÉ, Rajaratnam SMW, Howard ME, **Czeisler CA**. Accommodating vaccine preferences among women of childbearing age. *Am J Obstet Gynecol*. 2021 Jul 31:S0002-9378(21)00833-4. doi: 10.1016/j.ajog.2021.07.017. Epub ahead of print. PMID: 34343503; PMCID: PMC8372432.
74. **Czeisler CA**, Buxton OM. The human circadian timing system and sleep-wake regulation. In: Kryger MH, Roth T, Goldstein CA, Dement WC, eds. Principles and Practice of Sleep Medicine, 7th Edition. Philadelphia: W.B. Saunders Company, 2022.

[Non-peer reviewed scientific or medical publications/materials in print or other media](#)

Books and Monographs

1. **Czeisler CA**, Guilleminault C, eds. REM sleep: Its temporal distribution. New York: Raven Press, 1980.
2. Moore-Ede MC, **Czeisler CA**, eds. Mathematical models of the circadian sleep-wake cycle. New York: Raven Press, 1984.
3. **Czeisler CA**, Turek FW, eds. Melatonin, sleep and circadian rhythms: Current progress and controversies. Special issue of the *Journal of Biological Rhythms*. Thousand Oaks CA: Sage Science Press, 1997.

Letters to the Editor

1. **Czeisler CA**, Allan JS. Moonlight and circadian rhythms. Response to a letter by R.M. Sinclair. *Science* 1987; 235:145.
2. Tofler GH, Brezinski D, Schafer AI, **Czeisler CA**, Rutherford JD, Willich SN, Gleason RE, Williams GH, Muller JE. Concurrent morning increase in platelet aggregability and the risk of myocardial

- infarction and sudden cardiac death. Response to letters by C.C.T. Smith *et al.* and T.W. Meade *et al.*, *New Engl J Med* 1987; 317:1737.
3. Dinges DF, Graeber RC, Carskadon MA, **Czeisler CA**, Dement WC. Attending to inattention. Letter to the editor, *Science* 1989; 245:342.
 4. **Czeisler CA**, Duffy JF, Kronauer RE. Treatment of physiologic maladaptation to night work. Letter to the editor, *N Engl J Med* 1990;323:918-919.
 5. Kronauer RE, Jewett ME, **Czeisler CA**. Human circadian rhythms. Response to commentary by A.T. Winfree. *Nature* 1991; 351: 193.
 6. Dijk DJ, Jewett ME, **Czeisler CA**, Kronauer RE. Nonlinear interactions between circadian and homeostatic processes: models or metrics? Reply to technical note by Achermann P. *J Biol Rhythms* 1999; 14:604-605.
 7. **Czeisler CA**, Dijk DJ, Kronauer RE, Brown EN, Duffy JF, Allan JS, Shanahan TL, Rimmer DW, Ronda JS, Mitchell JF, Silva EJ, Emens JS. Is there an intrinsic period of the circadian clock? Response to letter from Campbell SS. *Science* 2000; 288: 1174-1175.
 8. **Czeisler CA**, Lockley SW, Landrigan CP, Katz JT, Barger LK, Ayas NT, Rothschild JM, Kaushal R, Stone PH, Bates DW. Current resident work hours: Too many or not enough? [Letter] *JAMA* 2002; 287:1802-1803.
 9. Landrigan CP, Lockley SW, **Czeisler CA**, Interns' Work Hours. Response to Letters, *N Engl J Med* 2005; 352: 727-728.
 10. Landrigan CP, Lockley SW, **Czeisler CA**, Effect of Interns' Consecutive Work Hours on Safety, Medical Education and Professionalism. [Letter], *Critical Care* 2005; 9:528-530.
 11. Barger LK, Ayas N, **Czeisler CA**. Post-call accidents. Response to Letters. *N Engl J Med* 2005; 352: 1491-1492.
 12. **Czeisler CA**. Wake-promoting therapeutic medications not an appropriate alternative to implementation of safer work schedules for resident physicians. Letter to Editor. *Mayo Clinic Proc.* 2010; 85:955-957.
 13. Chang AM, **Czeisler CA**. Reply to Zeitzer: Good science, in or out of the laboratory, should prevail. *Proc Natl Acad Sci USA* 2015; 112(13):E1514. PMID 25762077.
 14. Rajaratnam SM, Landrigan CP, **Czeisler CA**. Graduated Driver-Licensing: The Authors Reply. *Health Aff (Millwood)*. 2015 Sep 1;34(9):1610.
 15. de la Iglesia HO, Moreno C, Lowden A, Louzada F, Marqueze E, Levandovski R, Pilz LK, Valeggia C, Fernandez-Duque E, Golombek DA, **Czeisler CA**, Skene DJ, Duffy JF, Roenneberg T. Ancestral Sleep. *Curr Biol* 2016; 26(7):R271-272. PMID: 27046809
 16. Landrigan CP, **Czeisler CA**. Patient Safety under Flexible and Standard Duty-Hour Rules. *N Engl J Med*. 2019 Jun 13;380(24):2379-2380. doi: 10.1056/NEJMc1905064. PubMed PMID: 31189044.
 17. Landrigan CP, Rahman SA, **Czeisler CA**. Patient Safety and Resident Schedules without 24-Hour Shifts.

Reply. *N Engl J Med.* 2020 Sep 24;383(13):1288. doi: 10.1056/NEJMc2025843. PMID: 32966732.

18. Czeisler MÉ, Wiley JF, **Czeisler CA**, Rajaratnam SMW, Howard ME, Tempering optimism from repeated longitudinal mental health surveys. *Lancet Psych* 2021 April 01; 8(4): 274-275. doi: [https://doi.org/10.1016/S2215-0366\(21\)00045-6](https://doi.org/10.1016/S2215-0366(21)00045-6)
19. Emens JS, Klerman EB, **Czeisler CA**. Toward a new nosology for non-24-hour sleep-wake rhythm disorder. *J Clin Sleep Med.* 2021 Dec 1. doi: 10.5664/jcsm.9810. Epub ahead of print. PMID: 34846294.

[Professional educational materials or reports, in print or other media](#)

Television Documentaries

The Infinite Voyage: Chronobiology (WQED, PBS/Pittsburgh)—Served on five-member expert advisory panel for this documentary in a series co-produced by WQED and the NAS under the auspices of the National Academy of Sciences Film Committee. 1989. Michael S. Shaw, MD, Lee Bobker, Dita Domonkos (Producers and Directors).

Journey Into Sleep (Health Science Media). 1990 Winner: Cine Golden Eagle Film & Video Competition. William Bensen (Senior Producer/Director), Darrell Mohr (Producer/Editor), Jennifer Pulley (Host).

NASA CONNECT™—The Right Ratio of Rest: Proportional Reasoning. Appeared in and served as scientific advisor for this educational film produced for middle school children grades 5-8 by NASA Langley Research Center's Office of Educational Programs; first broadcast September 22, 2005. (Winner or Regional Emmy in Service Program category from the National Capital Chesapeake Bay Chapter of the National Academy of Television Arts and Sciences)

Chronobiology: The Time of Our Lives. Roger Bingham (Executive Producer and Writer), Teyra Ryan (Producer), John Rubin (Writer). KCET-TV (PBS/Los Angeles) Science and Society Unit, *Frontiers of the Mind*—A KCET production; Community Television of Southern California. 1998; 58 minutes.

The Nature of Things: The Sleep Famine (SBS Television, Australia). David Suzuki (Host), Michael Allder (Executive Producer), Bruce Martin (Screenwriter), Vishnu Mathur (Producer, Director). 2000 (A New York Times Critic's Pick)

Reports

Institute of Medicine, Division of Mental Health and Behavioral Medicine, *Health and Behavior: Frontiers of Research in the Biobehavioral Sciences*, Hamburg DA, Elliott GR, Parron DL, eds. Washington DC: National Academy Press, 1982. Member of Task Force on Health and Behavior Monograph.

Committee on Science and Technology House of Representatives. Ninety-eighth Congress. *Biological Clocks and shift work scheduling*. Washington DC: US Government Printing Office, 1983. Witness in the Hearings before the Subcommittee on Investigations and Oversight

Center for Design of Industrial Schedules. *Final Report on the Philadelphia Police Department Shift Rescheduling Program*. Prepared for the Fraternal Order of Police, Lodge No. 5, Philadelphia PA, 1988.

U.S. Congress, Office of Technology Assessment, *Biological Rhythms: Implications for the worker*, OTA-BA-463. Washington, DC: Government Printing Office, September 1991. Member of Biological Rhythms Study Panel.

American Academy of Sleep Medicine. *The International Classification of Sleep Disorders, Revised. Diagnostic and Coding Manual*. Chicago, IL: American Academy of Sleep Medicine 2001. Member of Diagnostic Classification Steering Committee of the American Academy of Sleep Medicine.

American Academy of Sleep Medicine. *The International Classification of Sleep Disorders, 2nd Ed. Diagnostic and Coding Manual*. Westchester, IL: American Academy of Sleep Medicine 2005. Member of Circadian Rhythm Sleep Disorders Task Force.

U.S. Department of Transportation's Federal Motor Carrier Safety Administration. *Expert Panel Recommendations: Obstructive Sleep Apnea and Commercial Motor Vehicle Safety* January 2008. Ancoli-Israel S, Czeisler CA, George CF, Guilleminault C, Pack AI.

Available at: <http://www.fmcsa.dot.gov/rules-regulations/TOPICS/mep/report/Sleep-MEP-Panel-Recommendations-508.pdf>

National Academy of Sciences. *Commercial Motor Vehicle Driver Fatigue, Long-Term Health, and Highway Safety: Research Needs*. Washington DC: National Academies Press, 2016. Panel on Research Methodologies and Statistical Approaches to Understanding Driver Fatigue Factors in Motor Carrier Safety and Driver Health; Committee on National Statistics; Board on Human-Systems Integration; Division of Behavioral and Social Sciences and Education; Transportation Research Board; National Academies of Sciences, Engineering, and Medicine. Member of the Panel on Research Methodologies and Statistical Approaches to Understanding Driver Fatigue Factors in Motor Carrier Safety and Driver Health. Available at: <http://www.nap.edu/catalog/21921/commercial-motor-vehicle-driver-fatigue-long-term-health-and-highway-safety>

Thesis

1. **Czeisler CA.** Psychoendocrine study on the effects of anxiety: the nycthemeral pattern of plasma cortisol levels in patients awaiting elective cardiac surgery (A.B. thesis, summa cum laude). Cambridge MA: Harvard College, 1974;1-94.
2. **Czeisler CA.** Internal organization of temperature, sleep-wake, and neuroendocrine rhythms monitored in an environment free of time cues (Ph.D. thesis). Stanford CA: Stanford University, 1978;1-346.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings (Past 3 years only)

2012

1. Chang AM, Anderson C, Cain S, Czeisler C. Effect of different light regimens for circadian entrainment to an 8-hour advance of sleep. Abstract. 13th Biennial Meeting of the Society for Research in Biological Rhythms (SRBR) Destin, FL; 2012 May 19-23:S21
2. Cain S, Vlassac I, Gooley J, Rahman S, Van Reen E, Rueger M, St. Hilaire M, Klerman E, Czeisler C, Lockley S. Sex differences in seasonal timing of the circadian clock in humans. Abstract. 13th Biennial Meeting of the Society for Research in Biological Rhythms (SRBR) Destin, FL; 2012 May 19-23:S66

3. Duffy JF, Ward K, Silva EJ, Dennison CF, Kronauer RE, **Czeisler CA**. One day of dim light sensitizes the human circadian timing system. Abstract. 13th Biennial Meeting of the Society for Research in Biological Rhythms (SRBR) Destin, FL; 2012 May 19-23:P53.
4. Flynn-Evans E, Barger L, Kubey A, Wright K, **Czeisler CA**. Sleep and circadian rhythms in crewmembers during space shuttle missions. Abstract. 13th Biennial Meeting of the Society for Research in Biological Rhythms (SRBR) Destin, FL; 2012 May 19-23:P224.
5. Lee M, Howard M, Liang Y, Horrey W, Anderson C, Shreeve M, O'Brien C, **Czeisler CA**. Ocular measurements of drowsiness and driving performance after night shift work. Abstract. 13th Biennial Meeting of the Society for Research in Biological Rhythms (SRBR) Destin, FL; 2012 May 19-23:P280.
6. Sazuka N, Wang W, Wyatt J, **Czeisler CA**, Klerman E. Differential effects of two alertness promoting agents on sleep quantified using transition analysis. Sex differences in seasonal timing of the circadian clock in humans. Abstract. 13th Biennial Meeting of the Society for Research in Biological Rhythms (SRBR) Destin, FL; 2012 May 19-23:P135.
7. Barger L, Rajaratnam SM, Lockley SW, Sullivan J, O'Brien C, Qadri S, **Czeisler CA**. Sleep disorders are associated with adverse health and safety in firefighters. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35:A60.
8. Barger L, Rajaratnam SM, Lockley SW, Wang W, Landrigan CP, O'Brien C, Qadri S, Sullivan J, Cade BE, **Czeisler CA**. Sleep disorders are associated with adverse performance and safety in police officers. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35: A442.
9. Buxton AM, Hu K, Wang W, Cain SW, Porter J, O'Connor SP, Mohamed YA, Duffy JF, **Czeisler CA**, Shea SA. Energy balance considerations during chronic sleep restriction and circadian misalignment. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35:A105.
10. Chang A, Aeschbach D, Duffy JF, **Czeisler CA**. Impact of evening use of light-emitting electronic readers on circadian timing and sleep latency. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35:A205.
11. Chang A, Anderson C, Cain SW, **Czeisler CA**. Evaluation of photic countermeasures for circadian entrainment to an 8-hour advance of sleep. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35:A212.
12. **Czeisler CA**, Shea SA, Lockley SW, Barger L, O'Brien C, Qadri S, Epstein LJ, White D, Rajaratnam S. Body Mass Index is an effective measure for occupational screening of employees at high risk for moderate to severe Obstructive Sleep Apnea: Implications for DOT commercial driver medical examinations. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35: A138.
13. Flynn-Evans EE, Kubey A, Wang W, Wright KP, **Czeisler CA**, Barger L. Sleep duration among 64 astronauts on space shuttle missions. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35:A116.
14. Lee ML, Howard ME, Horrey WJ, Liang Y, Anderson C, Shreeve MS, O'Brien C, **Czeisler CA**. Ocular

measurement of drowsiness and driving impairment in shift-workers. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35: A68.

15. Phillips AJ, Breslow ER, Huang JM, St. Hilaire MA, Klerman EB. Actigraphic sleep patterns and obesity in older men and women. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35: A212.
16. Rajaratnam S, Barger L, Lockley SW, Shea SA, Wang W, Landrigan CP, O'Brien C, Qadri S, Sullivan J, **Czeisler CA**. Sleep disorders are associated with adverse physical and mental health outcomes in police officers. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35: A442.
17. Tucker AM, **Czeisler CA**, Wright KP. Individual differences in lapses of attention during sleep deprivation are stable across the biological night and subsequent biological day. Abstract. 26th Annual Meeting of the Associated Professional Sleep Societies, LLC (APSS) Boston, MA; *Sleep* 2012; 35: A111.

2013

18. Flynn-Evans EE, Barger LK, Kubey A, Wright KP Jr., Klerman EB, and **Czeisler CA**. Sleep duration and medication use among astronauts during predicted circadian misalignment on long duration missions. NASA Investigators Working Group Meeting, Galveston, TX, February 2013.
19. Bollweg LJ, Barger LK, Sullivan JP, Lockley SW and **Czeisler CA**. Development of an educational program for flight controllers working nightshifts (Orbit 1). NASA Investigators Working Group Meeting, Galveston, TX, February 2013.
20. Barger LK, Sullivan JP, Bollweg LJ, Lockley SW and **Czeisler CA**. Experimental trial of fatigue countermeasure program in operational flight controllers. NASA Investigators Working Group Meeting, Galveston, TX, February 2013.
21. Buxton O, Hu K, Hussain MV, Cain SW, McLaren DT, Porter J, O'Connor SP, Duffy JF, **Czeisler CA**, Shea SA. Sleep restriction with circadian disruption increases sympathovagal balance in older healthy humans. *Sleep* 2013; 36:A19.
22. Chang AM, Buxton OM, **Czeisler CA**, Duffy JF, Lockley SW, Scheer FAJL, Saxena R. PER2 polymorphism influences slow-wave sleep in humans. *Sleep* 2013; 36:A322.
23. Aeschbach DA, Cohen DA, **Czeisler CA**, Klerman EB. Distinct non-additive effects of acute and chronic sleep loss and circadian phase on inadvertent attentional failures. *Sleep* 2013;36:A87.
24. Klerman EB, Wyatt JK, Cohen, DA, Aeschbach D, Gronfier C, Wang W, **Czeisler CA**. Effects of Prior Time Awake and Time Asleep on Sleep Structure: Analyses across Forced Desynchrony Protocols with Different Sleep/Wake Cycle Durations. *Sleep* 2013; 36:A42.
25. Wang W, Wyatt JK, Cohen DA, Aeschbach D, Gronfier C, Beckett SA, Mankowski P, **Czeisler CA**, Klerman EB. Modeling Circadian Influences on Actigraphy Data With Zero-inflated Poisson Distribution. *Sleep* 2013; 36: A50.
26. Rahman SA, St. Hilaire MS, Flynn-Evans EE, Barger LK, Brainard GC, **Czeisler CA**, Lockley SW. The ISS dynamic lighting schedule: An in-flight lighting countermeasure to facilitate circadian adaptation,

improve sleep and enhance alertness and performance on the International Space Station. Abstract. 2013 NASA Human Research Program Investigators' Workshop; 2013 Feb 12-14; Houston, USA.

2014

27. Zitting KM, Cain SW, Münch MY, Silva EJ, Wang W, **Czeisler CA**, Duffy JF. Chronic sleep restriction leads to dissociation of subjective and objective sleepiness. *Sleep* 2014; 37:A83-4.
28. Wang W, Duffy JF, **Czeisler CA**, Klerman EB. Sex differences in sleep quantified using survival analyses of sleep and wake bouts: A meta-analysis across forced desynchrony protocols. *Sleep* 2014; 37:A46.
29. Maurer L, Elliott KJ, Ronda JM, Zitting K-M, Ward KE, **Czeisler CA**, Duffy JF. A new face of sleep: The impact of post-learning sleep on recognition memory for face-name associations. *Journal of Sleep Research* 2014; 23 (suppl 1): 98.
30. Zitting KM, Cain SW, Münch MY, Wang W, Ronda JM, **Czeisler CA**, Duffy JF. Objective sleepiness in young and older adults during 3 weeks of chronic sleep restriction. *Journal of Sleep Research* 2014; 23 (suppl 1):269..
31. Bermudez E, Klerman EB, Cohen DA, Wyatt JK, **Czeisler CA**, Phillips AJK. The Relationship Between Subjective Alertness and Objective Performance during Chronic Sleep Restriction. *Sleep* 2014. Minneapolis MN. 37: A84
32. Cohen DA, Wang W, Wyatt JK, **Czeisler CA**, Klerman EB. Sleep Inertia during Chronic Sleep Restriction is Affected by Circadian Phase, Length of Time Awake, and Duration of Sleep Restriction. *Sleep* 2014. Minneapolis MN. 37:A86.
33. Lee ML, Strangman GE, Hull JT, Kamath TV, Wang W, Rahman SA, Lockley SW, Ivkovic V, Zhang Q, Czeisler C, Klerman EB. (June, 2014) Assessing the Circadian Rhythmicity and Impact of Chronic Sleep Loss on Performance-Associated Regional Brain Activation Using Near Infrared Spectroscopy. Society for Research and Biological Rhythms meeting abstract. Big Sky, Montana.
34. Clerx WM, Phillips AJK, Lockley SW, O'Brien CS, Klerman EB, **Czeisler CA**. Impact of irregularity of sleep-wake schedules on circadian phase and amplitude in college undergraduates. 2014 SRBR Meeting. Big Sky, Montana. 2014.
35. Rahman SA, St. Hilaire MS, Flynn-Evans EE, Barger LK, Brainard GC, **Czeisler CA**, Lockley SW. The ISS dynamic lighting schedule: An in-flight lighting countermeasure to facilitate circadian adaptation, improve sleep and enhance alertness and performance on the International Space Station. Abstract. 2014 NASA Human Research Program Investigators' Workshop; 2014 Feb 12-13; Houston, USA
36. Barger LK, Sullivan JP, Lockley SW, **Czeisler CA**. Fatigue countermeasure program improves alertness and performance in operational flight controllers. Abstract. 2014 NASA Human Research Program Investigators' Workshop; 2014 Feb 12-13; Houston, USA.
37. Rahman SA, St. Hilaire MA, Chang AM, Santhi N, Gronfier C, Kronauer RE, **Czeisler CA**, Klerman EB, Lockley SW. Functional decoupling of melatonin suppression and circadian phase resetting in humans. Abstract. 14th meeting of the Society for Research in Biological Rhythms (SRBR); 2014 June 14-18; Big Sky, USA.

38. Hull JT, Dijk DJ, **Czeisler CA**, Lockley SW. Suppression of melatonin secretion by ocular exposure to bright light in the blind. Abstract. 14th meeting of the Society for Research in Biological Rhythms (SRBR); 2014 June 14-18; Big Sky, USA.

2015

39. Brainard, G, Barger, L, Clark T, Coyle, W, Czeisler, C, Hanifin, J, Johnston, S, Maida J, Moomaw, R, Pineda, C, Warfield, B, and Lockley, S. Testing solid state lighting countermeasures to improve circadian adaptation, sleep, and performance during high fidelity analog and flight studies for the international space station. NASA Investigators Working Group Meeting, Galveston, TX, January 2015.
40. Rahman SA, St. Hilaire MS, Flynn-Evans EE, Barger LK, Brainard GC, **Czeisler CA**, Lockley SW. The ISS dynamic lighting schedule: An in-flight lighting countermeasure to facilitate circadian adaptation, improve sleep and enhance alertness and performance on the International Space Station. Abstract. 2015 NASA Human Research Program Investigators' Workshop; 2015 Jan 13-15; Houston, USA.
41. St. Hilaire MS, Rahman SA, Sullivan JP, Kristal BS, Quackenbush J, Duffy JF, Barger LK, **Czeisler CA**, Lockley SW. Development and testing of biomarkers to determine individual astronauts' vulnerabilities to behavioral health disruptions. Abstract. 2015 NASA Human Research Program Investigators' Workshop; 2015 Jan 13-15; Houston, USA.
42. Brainard G, Lockley S, Barger L, Clark T, Coyle W, Czeisler C, Hanifin J, Johnston S, Maida J, Moomaw R, Pineda C, Warfield B. Testing solid state lighting countermeasures to improve circadian adaptation, sleep, and performance during high fidelity analog and flight studies for the International Space Station. Abstract. 2015 NASA Human Research Program Investigators' Workshop; 2015 Jan 13-15; Houston, USA.

Narrative Report

Charles A. Czeisler, Ph.D., M.D. is the Baldino Professor of Sleep Medicine, Director of the Division of Sleep Medicine at Harvard Medical School and Chief of the Division of Sleep Medicine in the Department of Medicine at Brigham and Women's Hospital in Boston, Massachusetts. Dr. Czeisler has more than 30 years' experience in the field of basic and applied research on the physiology of the human circadian timing system and its relationship to the sleep-wake cycle including the application of sleep science and sleep medicine to occupational medicine/health policy. He is interested in the physiology of the hypothalamic circadian pacemaker in humans, photic and non-photic synchronizers of the human circadian pacemaker, temporal dynamics in neuroendocrine systems, homeostatic and circadian factors in the regulation of sleep and alertness, and the application of circadian physiology to occupational medicine/health policy, particularly as it relates to the extended duration work shifts and long work weeks.