2022 March 9

Education, Health, & Environmental Affairs Committee Maryland Senate Maryland General Assembly Annapolis, Maryland

Re: SB-534: Unfavorable

Dear Honorable Senators,

Please oppose SB-534, a bill to retry permanent Daylight Saving Time, a policy that has repeatedly failed with loss of money and lives. Please recommend its amendment to permanent Standard Time, for lasting health, safety, education, and prosperity.

Permanent DST is federally forbidden by the Uniform Time Act (15 USC §260a). It would also force constituents to wake an hour early relative to sunrise, every workday from November through March. It would artificially delay Maryland sunrises to 8:39am, and past 8am up to 3.4 months. Support for permanent DST historically reverses into opposition when experienced. Permanent DST has failed several times; it cost American children's lives in 1974. [BBC][Ripley][Yorkshire] No law can make winter feel like summer.

Moving clocks to DST acutely deprives sleep. Leaving clocks on DST chronically deprives sleep (estimated average 19 minutes nightly). [Giuntella][Roenneberg] Artificial delay of sunrise by one hour continually manifests as significant increases in accidents, disease (certain cancers up 12–36%), and healthcare costs, and as significant decreases in learning, productivity, and earnings (individual wages down 3–5%). [Gibson][Giuntella][Gu][Roenneberg] It's not just clock change that harms, but also DST's forced early waking. Permanent Standard Time instead lets people sleep longer. [AASM][Juda][SRBR] It's the natural time, defined by the sun.

Professional polling shows strong public support to end clock change, with preference for Standard Time. [AP] Permanent Standard Time is federally permitted by the Uniform Time Act. Standard Time preserves the morning sunlight needed daily by human biology. Its benefits to circadian health improve immunity, longevity, mood, alertness, and performance at school and work. They prevent traffic deaths, lower crime, and reduce chronic illnesses. [AASM][Juda][SRBR] Standard Time protects start times for schoolchildren, farmers, and most working adults, by letting citizens sleep naturally past sunrise year-round. [Borisenkov][Cell] [Schlanger][Skeldon]

Scores of organizations, representing millions of researchers, doctors, teachers, parents, and community leaders worldwide, oppose DST and endorse permanent Standard Time.

Among these are the Maryland Sleep Society, Southern Sleep Society, American College of Chest Physicians, National Safety Council, American Academy of Sleep Medicine, National Sleep Foundation, National PTA, American College of Occupational & Environmental Medicine, Start School Later, Society for Research on Biological Rhythms, and many more state, national, and international groups.[AASM][CSS][NSF][SRBR]

Please hear the consensus of doctors, teachers, polling, and history. Save time, money, and lives. Oppose this bill, and recommend its amendment to permanent Standard Time.

Sincerely,

Jay Pea President

jay@savestandardtime.com

American Academy of Sleep Medicine (2020). "Call for Elimination of Daylight Saving Time". Journal of Clinical Sleep Medicine. https://aasm.org/american-academy-of-sleep-medicine-calls-for-elimination-of-daylight-saving-time/

AP-NORC (2021). "Dislike for Changing the Clocks Persists". Center for Public Affairs Research. https://apnorc.org/projects/dislike-for-changing-the-clocks-persists/

BBC (2014). "Russia: Putin Abolishes 'Daylight Savings' Time Change". BBC News. https://www.bbc.com/news/blogs-news-from-elsewhere-28423647

Borisenkov et al (2016). "Seven-Year Survey of Sleep Timing in Russian Children and Adolescents". *Biological Rhythm Research*. https://www.researchgate.net/publication/307547013 Seven-year survey of sleep timing in Russian children and adolescents chronic 1-

h forward transition of social clock is associated with increased social jetlag and winter pattern of mood seasonality

Canadian Sleep Society (2021). "Position Statement of the Canadian Sleep Society on the Practice of Daylight Saving Time". Canadian Sleep Society News. https://css-scs.ca/position-statement-of-the-canadian-sleep-society-on-the-practice-of-daylight-saving-time-dst/

Cell Press (2019). "Permanent Daylight Savings May Cancel Out Changes to School Start Times". EurekAlert!. https://www.eure-kalert.org/pub_releases/2019-04/cp-pds041819.php

Gibson & Shrader (2015). "Time Use and Productivity: The Wage Returns to Sleep". Williams College Department of Economics Working Papers. https://econpapers.repec.org/paper/wilwileco/2015-17.htm

Giuntella & Mazzonna (2017). "Sunset Time and the Economic Effects of Social Jetlag Evidence from US Time Zone Borders". *Journal of Health Economics*. https://www.sciencedirect.com/science/article/abs/pii/S0167629618309718

Gu et al (2017). "Longitude Position in a Time Zone and Cancer Risk in the United States". Cancer Epidemiology, Biomarkers & Prevention. https://cebp.aacrjournals.org/content/26/8/1306

Jin & Ziebarth (2019). "Sleep, Health, and Human Capital: Evidence from Daylight Saving Time". *The National Bureau of Economic Research*. https://ideas.repec.org/p/yor/hectdg/15-27.html

Juda et al (2019). "An Open Letter to the BC Government in Support of Permanent Standard Time". Simon Fraser University. https://vault.sfu.ca/index.php/s/sAnv3Z4bcSwY4Gm

National Sleep Foundation (2021). "Permanent Standard Time: A Position Statement from the National Sleep Foundation". NSF Issues. https://www.thensf.org/wp-content/uploads/2021/03/NSF-Position-on-Permanent-Standard-Time.pdf

Ripley (1974). "Senate Votes Return to Standard Time for Four Months and Sends Bill to Ford". The New York Times. https://www.ny-times.com/1974/10/01/archives/senate-votes-return-to-standard-time-for-four-months-and-sends-bill.html

Roenneberg et al (2019). "Daylight Saving Time and Artificial Time Zones – A Battle Between Biological and Social Times". Frontiers in Physiology. https://www.frontiersin.org/articles/10.3389/fphys.2019.00944/full

Schlanger (2017). "Daylight Saving Time as Americans Know It Was Instituted by Corporate Lobbies, Not Farmers". Quartz. https://qz.com/1120488/daylight-saving-time-as-americans-know-it-was-instituted-by-corporate-lobbies-not-farmers/

Skeldon & Dijk (2019). "School Start Times and Daylight Saving Time Confuse California Lawmakers". Current Biology. https://www.cell.com/current-biology/fulltext/S0960-9822(19)30312-4

Society for Research on Biological Rhythms (2019). "Why Should We Abolish Daylight Saving Time?". *Journal of Biological Rhythms*. https://srbr.org/advocacy/daylight-saving-time-presskit/

Yorkshire (2018). "British Summer Time: Why Do We Change the Clocks?". Yorkshire Evening Post. https://www.yorkshireevening-post.co.uk/news/uk-news/british-summer-time-why-do-we-change-clocks-313791

REJECT PERMANENT DAYLIGHT SAVING TIME

Forces early waking. Decreases immunity and alertness. Repeat failure.





RESTORE PERMANENT STANDARD TIME

Improves sleep. Best for health, safety, education. Federally pre-approved.





"The human circadian system does not adjust to Daylight Saving Time.

Sleep becomes disrupted, less efficient, and shortened... Permanent Standard Time is the healthier, more natural choice."

Nathaniel F Watson MD MSc
Neurology Professor, University of Washington, Seattle
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6557642/

"National PTA is opposed to Daylight Saving Time during the winter months because of the safety factor."

Heidi May Wilson

Spokesperson for the National Parent Teacher Association

https://www.washingtonpost.com/science/2019/03/08/springing-forward-daylight-soving-time-is-obsolete-confusing-unhealthy-critics-say/

Endorsements of Permanent Standard Time as the Better Year-Round Clock

The following parties reject permanent Daylight Saving Time and endorse permanent Standard Time as the better year-round clock. These are not implied to be endorsements of the Save Standard Time entity.

Organizations (non-comprehensive list)

American College of Chest Physicians American Academy of Sleep Medicine

National PTA

American Academy of Dental Sleep Medicine American Academy of Cardiovascular Sleep Med

American Federation of Teachers Rabbinical Council of America Indiana State Medical Association Northwest Noggin Neuroscience

Wisconsin Sleep Society Missouri Sleep Society Tennessee Sleep Society

Regional Adolescent Sleep Needs Coalition

Capitol Neurology Dakota Sleep Society Agudath Israel of California Agudath Israel of Florida Ohio Bicycle Federation

Stephens Memorial Observatory

Agudath Israel of Chicago

Association of Canadian Ergonomists

Solaris Fatique Management

Society for Research on Biological Rhythms

Society of Behavioral Sleep Medicine

Daylight Academy Good Light Group

European Biological Rhythms Society Australasian Chronobiology Society National Safety Council National Sleep Foundation

American College of Occupational Medicine

Start School Later

National Education Association National School Boards Association

Agudath Israel of America

Florida PTA

California Sleep Society Kentucky Sleep Society

Hampden District Medical Society

Maryland Sleep Society Southern Sleep Society

Michigan Academy of Sleep Medicine Rabbinical Council of California California Islamic University

Cuyahoga Astronomical Association

Adath Israel San Francisco

Campaign to Opt Out of DST in Texas

Canadian Sleep Society

Canadian Society for Chronobiology

World Sleep Society

Society of Anesthesia & Sleep Medicine

Society for Light Treatment & Biological Rhythms

B-Society

International Alliance for Natural Time European Sleep Research Society

Individuals (non-comprehensive list)

Elizabeth B Klerman MD PhD, Professor, Harvard Medical School, Boston, Massachusetts Michael T Lam MD PhD, San Diego, California Michael McCarthy MD PhD, Center for Circadian Biology, University of California, San Diego Thomas E Nordahl MD PhD, Professor Emeritus, University of California, Davis David K Welsh MD PhD, Professor Emeritus, University of California, San Diego Amir Zarrinpar MD PhD, Assistant Professor, San Diego, California Salman Ahsan PhD, San Jose, California Shimon Amir PhD, Professor, Concordia University, Montreal, Quebec

Shimon Amir PhD, Protessor, Concordia University, Montreal, Quebec Sonia Ancoli Israel PhD, Professor Emeritus, University of California, San Diego Michael Antle PhD, Professor, Hotchkiss Brain Institute & University of Calgary, Alberta

Susanna Barry PhD, College Mental Health Counselor & Sleep Coach, Cambridge, Massachusetts

William Bechtel PhD, Distinguished Professor, University of California, San Diego

Joseph Boyd PhD, Research Scientist, MilliporeSigma, Temecula, California

Hugo Calligaro PhD, San Diego, California

Oscar Castanon-Cervantes PhD, Assistant Professor, Morehouse School of Medicine, Atlanta, Georgia

Joanna C Chiu PhD, Vice Chair, Department of Entomology & Nematology, University of California, Davis

Scott Cookson PhD, Quantitative BioSciences, San Diego, California

Jason DeBruyne, PhD, Associate Professor, Morehouse School of Medicine, Atlanta, Georgia

Grant Denn PhD, Physics Department Chair, Metropolitan State University of Denver, Colorado

Heinz Freisling MSc PhD, Epidemiologist, International Agency for Research on Cancer, Lyon, France

Frederic Gachon PhD, Group Leader, Physiology of Circadian Rhythms, Institute for Molecular Bioscience

Karen L Gamble PhD, Professor, The University of Alabama, Birmingham

Susan S Golden PhD, Director, Center for Circadian Biology, University of California, San Diego

Marijke CM Gordijn MS PhD, Chrono@Work, University of Groningen, Netherlands

Bill Griesar PhD, Northwest Noggin Neuroscience Outreach Group, Portland, Oregon

Liz Harrison PhD, Center for Circadian Biology, University of California, San Diego

Dietrich Henckel PhD, Professor, Technical University of Berlin, Germany

Erik Herzog PhD, Professor of Biology, Washington University, St Louis, Missouri

Myriam Juda PhD, Researcher, Simon Fraser University, Vancouver, British Columbia

Thomas Kantermann PhD, Institute for Labour & Personnel, FOM University of Applied Science, Essen, Germany

Achim Kramer PhD, Professor of Chronobiology, Charité – Universitätsmedizin Berlin, Germany

Camilla Kring PhD, Speaker, Author, & Entrepreneur, Copenhagen, Denmark

Katja Lamia PhD, Associate Professor of Molecular Medicine, Center for Circadian Biology, UC San Diego

Andy LiWang PhD, University of California, Merced

Travis Longcore PhD, Institute of the Environment & Sustainability, University of California, Los Angeles

Emily Manoogian PhD, Postdoctoral Fellow, San Diego, California

Peter Mansbach PhD, Bethesda, Maryland

Erik Maronde PhD, Scientist, Frankfurt, Germany

Girish Melkani MS PhD, Associated Research Professor, San Diego, California

Martha Merrow PhD, Professor of Chronobiology, Ludwig Maximilian University of Munich, Germany

Matt Metzgar PhD, Clinical Professor of Economics, University of North Carolina, Charlotte

Ralph Mistlberger PhD, Professor, Simon Fraser University, Vancouver, British Columbia

João Nunes PhD, Biochemistry Researcher, Dresden, Germany

Marie Pariollaud PhD, Postdoctoral Associate, Scripps Research, La Jolla, California

Ketema Paul, PhD, University of California, Los Angeles

Linda Petzold PhD, Professor, University of California, Santa Barbara

Frank Powell PhD, Professor of Medicine, University of California, San Diego

Kendall Satterfield PhD, San Diego, California

Dorothy D Sears PhD, San Diego, California

Lori L Shemek PhD, Health Expert & Bestselling Author, Dallas–Fort Worth, Texas

Benjamin Smarr PhD, Professor of Bioengineering & Data Science, University of California, San Diego

Andrea Smit PhD, Researcher, Simon Fraser University, Vancouver, British Columbia

Barbara Sorg PhD, Legacy Research Institute, Portland, Oregon

Melissa A St Hilaire PhD, Instructor, Harvard Medical School, Boston, Massachusetts

Andrew Steele PhD, Associate Professor of Biological Sciences, California State Polytechnic University

Jennifer Thomas PhD, Professor, San Diego, California

Gianluca Tosini PhD, Chief Scientific Research Officer, Morehouse School of Medicine, Atlanta, Georgia

Roger Tseng PhD, Biological Scientist, USDA, Ames, Iowa

Judy Village PhD CCCPE, President, Association of Canadian Ergonomists, British Columbia

Daniel S Whittaker PhD, Los Angeles, California

Anna Wirz-Justice PhD, Professor Emeritus, Centre for Chronobiology, University of Basel, Switzerland

Irving Zucker PhD, University of California, Berkeley

Mariah Baughn MD, San Diego, California

Steven M Croft MD FAAN, Neurologist, Houston, Texas

Richard E Cytowic MD, Washington, DC

Mona Ezzat MD, San Diego, California

John F Gottlieb MD, Clinical Assistant Professor of Psychiatry & Behavioral Sciences, Chicago, Illinois

Royan Kamyar MD, Physician, La Mesa, California

Jack Kruse DMD MD, Neurosurgeon, New Orleans, Louisiana

Beth Malow MD MS, Medical Doctor & Researcher, Brentwood, Tennessee

Melody T McCloud MD, Obstetrician-Gynecologist, Atlanta, Georgia

Tessa Sugarbaker MD MFT, San Francisco, California

Nathaniel F Watson MD MSc, Bainbridge Island, Washington

Dr Archana G Chavan, University of California, Merced

Dr Chelsea Gustafson, Assistant Professor, Portland, Oregon

Dr Paul Kelley, Milton Keynes, United Kingdom