

<b>Fiscal Year:</b>	FY 2016	<b>Task Last Updated:</b> FY 04/07/2016	
<b>PI Name:</b>	Klerman, Elizabeth B. M.D., Ph.D.		
<b>Project Title:</b>	Ultra-Short Light Pulses as Efficient Countermeasures for Circadian Misalignment and Objective Performance and Subjective Alertness Decrements--HFP00006		
<b>Division Name:</b>	Human Research		
<b>Program/Discipline:</b>			
<b>Program/Discipline--Element/Subdiscipline:</b>	NSBRI--Human Factors and Performance Team		
<b>Joint Agency Name:</b>	<b>TechPort:</b>	No	
<b>Human Research Program Elements:</b>	(1) <b>HFBP:</b> Human Factors & Behavioral Performance (IRP Rev H)		
<b>Human Research Program Risks:</b>	(1) <b>Sleep:</b> Risk of Performance Decrements and Adverse Health Outcomes Resulting from Sleep Loss, Circadian Desynchronization, and Work Overload (IRP Rev F)		
<b>Space Biology Element:</b>	None		
<b>Space Biology Cross-Element Discipline:</b>	None		
<b>Space Biology Special Category:</b>	None		
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<b>Organization Name:</b>	Brigham and Women's Hospital/Harvard Medical Center		
<b>PI Address 1:</b>	Department of Medicine		
<b>PI Address 2:</b>	Division of Sleep Medicine		
<b>PI Web Page:</b>			
<b>City:</b>	Boston	<b>State:</b>	MA
<b>Zip Code:</b>	02115-5804	<b>Congressional District:</b>	8
<b>Comments:</b>			
<b>Project Type:</b>	GROUND	<b>Solicitation / Funding Source:</b>	Directed Research
<b>Start Date:</b>	03/01/2016	<b>End Date:</b>	05/31/2017
<b>No. of Post Docs:</b>		<b>No. of PhD Degrees:</b>	
<b>No. of PhD Candidates:</b>		<b>No. of Master' Degrees:</b>	
<b>No. of Master's Candidates:</b>		<b>No. of Bachelor's Degrees:</b>	
<b>No. of Bachelor's Candidates:</b>		<b>Monitoring Center:</b>	NSBRI
<b>Contact Monitor:</b>		<b>Contact Phone:</b>	
<b>Contact Email:</b>			
<b>Flight Program:</b>			
<b>Flight Assignment:</b>	NOTE: End date changed to 5/31/2017 (original end date was 2/28/2017) per NSBRI (Ed., 3/2/17)		
<b>Key Personnel Changes/Previous PI:</b>			
<b>COI Name (Institution):</b>			
<b>Grant/Contract No.:</b>	NCC 9-58-HFP00006		
<b>Performance Goal No.:</b>			
<b>Performance Goal Text:</b>			

<b>Task Description:</b>	<p>NOTE: Follow-on as a directed research project to Dr. Klerman's National Space Biomedical Research Institute project "Ultra-Short Light Pulses as Efficient Countermeasures for Circadian Misalignment and Objective Performance and Subjective Alertness Decrements"; project NCC 9-58-HFP02802.</p> <p>The Principal Investigator will be looking at the effect of lighting and exercise on circadian rhythm as a countermeasure.</p> <p>Specific Aim 1: To test the hypothesis that the addition of moderate-intensity exercise to short intermittent bright light stimuli will increase the circadian phase shift relative to light exposure without exercise.</p> <p>Specific Aim 2: To test the hypothesis that the addition of moderate-intensity exercise to short intermittent bright light stimuli will improve objective performance during the stimuli relative to light exposure without exercise.</p> <p>Specific Aim 3: To test the hypothesis that the addition of moderate-intensity exercise to short intermittent bright light stimuli will increase subjective alertness during the stimuli relative to light exposure without exercise.</p> <p>Specific Aim 4: To test the hypothesis that the addition of moderate-intensity exercise to short intermittent bright light stimuli will improve objective and subjective sleep latency and total sleep time during the nights after the stimuli relative to light exposure without exercise.</p>
<b>Rationale for HRP Directed Research:</b>	
<b>Research Impact/Earth Benefits:</b>	
<b>Task Progress:</b>	<p>New project for FY2016. (Ed. note 4/7/2016: Follow-on as a directed research project to Dr. Klerman's National Space Biomedical Research Institute project "Ultra-Short Light Pulses as Efficient Countermeasures for Circadian Misalignment and Objective Performance and Subjective Alertness Decrements," project NCC 9-58-HFP02802.)</p>
<b>Bibliography Type:</b>	Description: (Last Updated: 02/16/2021)