

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

Task Description:	stimuli will improve objective performance during the stimuli relative to light exposure without exercise. 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. 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.
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	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.)
Bibliography Type:	Description: (Last Updated: 06/25/2025)