Fiscal Year:	FY 2014	**Task Last Updated:**	FY 11/08/2013
PI Name:	Reschke, Millard F Ph.D.		
Project Title:	Recovery of Functional Performance Following Long Duration Space Flight (Field Test)		
Division Name:	Human Research		
Program/Discipline:	HUMAN RESEARCH		
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Biomedical countermeasures		
Joint Agency Name:		**TechPort:**	No
Human Research Program Elements:	(1) **HHC**:Human Health Countermeasures		
Human Research Program Risks:	(1) **Cardiovascular**:Risk of Cardiovascular Adaptations Contributing to Adverse Mission Performance and Health Outcomes (2) **Sensorimotor**:Risk of Altered Sensorimotor/Vestibular Function Impacting Critical Mission Tasks		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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PI Organization Type:	NASA CENTER	**Phone:**	281-483-7210
Organization Name:	NASA Johnson Space Center		
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PI Address 2:	Neuroscience Laboratories		
PI Web Page:			
City:	Houston	**State:**	TX
Zip Code:	77058-3607	**Congressional District:**	36
Comments:			
Project Type:	GROUND	**Solicitation / Funding Source:**	Directed Research
Start Date:	10/22/2013	**End Date:**	10/31/2021
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:**	NASA JSC
Contact Monitor:	Norsk, Peter	**Contact Phone:**	
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Flight Program:			
Flight Assignment:	ISS Postflight studies		
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Kozlovskya, Inessa M.D. (Institute of Biomedical Problems Russian Academy of Sciences)		
Grant/Contract No.:	Directed Research		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	The Field Test (FT) proposal represents a joint effort between the Neuroscience and Cardiovascular Laboratories at the Johnson Space Center and the Institute of Biomedical Problems Sensorimotor Laboratory and Cardiovascular Laboratory, Moscow, Russia. The primary goal of this proposal is to determine functional performance in long duration space flight crews beginning as soon after landing as possible (< 2 hr) with one to three immediate follow-up measurements on the day of landing. This goal has both sensorimotor and cardiovascular elements with an evaluation of NASA's new compression garment with the Russian traditional Kentavr garment. In addition to the immediate post-landing collection of data, post-flight data will be acquired beginning approximately 24hr following landing and continue until full functional sensorimotor and cardiovascular responses have returned to preflight normative values. It is recognized that the level of functional deficit will be most profound during the acquisition of gravity loads and immediately after landing when the demands for crew intervention for emergency operations will be greatest. Clearly measureable performance parameters such as ability to perform a seat egress, recover from a fall or the ability to see clearly when walking, and related physiological data (orthostatic responses) are required to provide an evidence base for characterizing programmatic risks and variability among crewmembers. Overall, these early functional and related physiological measurements will allow for the establishment of a sensorimotor and cardiovascular recovery time constant that has not been previously captured in over 50 years of space flight. Specific Aims: 1. Quantify functional performance from measurements on long duration crewmembers taken as close in time to landing as possible. 2. Develop a recovery timeline of functional performance on long duration crewmembers. 3. Determine the efficacy of U.S. and Russian compression garments as countermeasures for alleviating orthostatic intolerance.
Rationale for HRP Directed Research:	This research is directed because it contains highly constrained research, which requires focused and constrained data gathering and analysis that is more appropriately obtained through a non-competitive proposal.
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2014.
Bibliography Type:	Description: (Last Updated: 06/28/2023)