Fiscal Year:	FY 2015	**Task Last Updated:**	FY 08/14/2015
PI Name:	Binsted, Kim Ph.D.		
Project Title:	Using Analog Missions to Develop Effective Team Composition Strategies for Long Duration Space Exploration		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Behavior and performance		
Joint Agency Name:		**TechPort:**	No
Human Research Program Elements:	(1) **HFBP**:Human Factors & Behavioral Performance (IRP Rev H)		
Human Research Program Risks:	(1) **Team**:Risk of Performance and Behavioral Health Decrements Due to Inadequate Cooperation, Coordination, Communication, and Psychosocial Adaptation within a Team		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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Zip Code:	96822-2217	**Congressional District:**	1
Comments:			
Project Type:	GROUND	**Solicitation / Funding Source:**	2014-15 HERO NNJ14ZSA001N-Crew Health (FLAGSHIP & NSBRI)
Start Date:	07/01/2015	**End Date:**	06/30/2018
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
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Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Bedwell, Wendy Ph.D. (University of South Florida, Tampa) Bishop, Sheryl Ph.D. (University of Texas, Galveston) Hunter, Jean Ph.D. (Cornell University) Kozlowski, Steve Ph.D. (Michigan State University) Miller, Christopher Ph.D. (Smart Information Flow Technologies, LLC) Roma, Peter Ph.D. (Institutes for Behavior Resources, Inc) Wu, Peggy B.S. (Smart Information Flow Technologies, LLC)		
Grant/Contract No.:	NNX15AN05G		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	Astronaut crews for long-duration multi-national missions will endure many physical challenges and psychological stressors, some largely predictable in type and timing and others unpredictable. Crews are likely to be diverse with respect to educational background, skill set, ethnicity, gender, leadership/followership styles etc., yet they must form a cohesive team, and continue to function together at a high level of objective performance and remain responsive to mission support over the duration of the mission. Crew cohesion will be more fragile at times of high stress and fatigue, yet those are the times when performance must be unimpaired if the crew is to succeed. Adding to the challenge, the pool from which crews must be selected may be significantly constrained by other factors, such as past radiation exposure. For these reasons, it is essential that we understand how best to compose and support crews for long-duration space missions, and that we develop a set of validated tools to this end. In order to enable and advance long duration human space exploration, we propose to investigate individual and crew characteristics that may affect crew function and performance, by measuring both characteristics and performance on a range of simulated missions in analog environments. Based on the correlations found, we will develop a predictive model of the relationship between crew composition and performance. We will validate and enhance this model via data collected on four 4-month Hawai'i Space Exploration Analog and Simulation (HI-SEAS) missions, and use the results to provide NASA with a set of tools to optimize its crew composition strategies.
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2015.
Bibliography Type:	Description: (Last Updated: 09/09/2022)