Fiscal Year:	FY 2017	Task Last Updated:	FY 06/27/2017
PI Name:	Greene, Maya Ph.D.	-	
Project Title:	Vehicle NHV and Habitability Assessment		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline Element/Subdiscipline:			
Joint Agency Name:	TechPo	ort:	Yes
Human Research Program Elements:	(1) HFBP:Human Factors & Behavioral Performance (IRP Rev H)		
Human Research Program Risks:	<ol> <li>(1) BMed:Risk of Adverse Cognitive or Behavioral Conditions and Psychiatric Disorders</li> <li>(2) HSIA:Risk of Adverse Outcomes Due to Inadequate Human Systems Integration Architecture</li> </ol>		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
PI Email:	maya.r.greene@nasa.gov	Fax:	FY
PI Organization Type:	NASA CENTER	Phone:	281-483-3841
Organization Name:	KBRWyle/NASA Johnson Space Center		
PI Address 1:	2400 E NASA Parkway		
PI Address 2:	Mailcode: Wyle/HSE		
PI Web Page:			
City:	Houston	State:	TX
Zip Code:	77058	<b>Congressional District:</b>	36
Comments:			
Project Type:	GROUND Solicita	ation / Funding Source:	Directed Research
Start Date:	02/06/2017	End Date:	09/30/2018
No. of Post Docs:		No. of PhD Degrees:	
No. of PhD Candidates:	I	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:	Williams, Thomas	<b>Contact Phone:</b>	281-483-8773
Contact Email:	thomas.j.will1@nasa.gov		
Flight Program:			
Flight Assignment:	NOTE: Extended to 9/30/2018 from original end date of 6/29/2	018, per PI (Ed., 8/7/18)	
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Schuh, Susan M.S. ( MEI Technologies/NASA Johnson Space Center ) Vasser, Katie M.S. ( MEI Technologies/NASA Johnson Space Center ) Archer, Ron M.S. ( Lockheed Martin/NASA Johnson Space Center ) Whitmire, Alexandra Ph.D. ( KBRWyle/NASA Johnson Space Center )		
Grant/Contract No.:	Directed Research		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	<ul> <li>NOTE: Continues "Vehicle NHV and Habitability Assessment" with Principal Investigator (PI) Dr. Sherry Thaxton due to Dr. Thaxton's move to Human Factors &amp; Behavioral Performance Deputy Element Scientist, as of 2/5/2017. The purpose of this study is to assess habitability on the International Space Station (ISS) in order to better prepare for long-duration spaceflight missions of the future. The project deliverables will include information to help prioritize and reduce research gaps, operational inputs to the Human Performance Data Repository, and data for modeling and simulation tool development and validation to use for future designs. The knowledge gained through this project will provide valuable insight into a day-in-the-life of an astronaut as well as providing initial steps to characterize/quantify how we work and live in a microgravity environment during a year-long mission. Thus, it will help address specific research needs identified as part of the Human Research Program's (HRP's) 2012 Habitable Volume Workshop and Standing Review Panel comments, and result in recommendations for future vehicle design layout and minimum net habitable volume (NHV). In addition, another potential outcome of the project will be enhancing the current ISS human factors are debried processes, resulting in higher quality data with minimal impact on crew time.</li> <li>This study is led by the Human Factors and Behavioral Performance (HFPB) element.</li> <li>Specific Aims:</li> <li>Specific Aim 1: Characterize the current state of ISS habitability using tools to capture data near real-time.</li> <li>o Aim 1a: Document/quantify details about crew task performance in a long-duration microgravity environment, including influences from the habitable environment and relationship impacts to the behavioral state of crewmembers.</li> <li>o Aim 1a: Document/quantify details about crew task performance in a long-duration microgravity environment, including influences from the habitable environment and relationship impacts to t</li></ul>
Rationale for HRP Directed Research:	This research is directed due to a time constraint. This proposal focuses on the research opportunity afforded by the 2015 year-long mission of two crewmembers aboard the International Space Station (ISS).
Research Impact/Earth Benefits:	Innovative technology developed includes the Space Habitability Observation Reporting Tool (iSHORT). iSHORT is an iPad-based application that allows crewmembers to document near real-time observations about their surroundings using text, photographs, video, and audio recordings. iSHORT was reviewed by the Johnson Space Center (JSC) New Technology Evaluation Board, which recommended it for publication in a future edition of the NASA Tech Briefs magazine.
Task Progress:	New project for FY2017. NOTE: Continues "Vehicle NHV and Habitability Assessment" with Principal Investigator (PI) Dr. Sherry Thaxton due to Dr. Thaxton's move to Human Factors & Behavioral Performance Deputy Element Scientist, as of 2/5/2017. See that project for previous reporting.
Bibliography Type:	Description: (Last Updated: )