

Fiscal Year:	FY 2017	Task Last Updated:	FY 10/23/2017
PI Name:	Main, Bob M.S.		
Project Title:	Development of a Self-Imaging, Wide Angle, High Resolution Retinal Imaging System for Human Spaceflight Applications		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline--Element/Subdiscipline:	TRISH--TRISH		
Joint Agency Name:		TechPort:	No
Human Research Program Elements:	None		
Human Research Program Risks:	None		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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Zip Code:	84009	Congressional District:	4
Comments:			
Project Type:	Ground	Solicitation / Funding Source:	TRISH--Focused Investigations
Start Date:	09/01/2017	End Date:	08/31/2018
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:	TRISH
Contact Monitor:		Contact Phone:	
Contact Email:			
Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):			
Grant/Contract No.:	NNX16AO69A-FIP0002		
Performance Goal No.:			
Performance Goal Text:			
Task Description:	<p>Focused Investigation Project</p> <p>To develop a compact, desk mounted (slightly larger than an augmented reality headset) self-imaging, non-mydratric, 45+ degree wide-angle, high resolution retinal imaging device. Machine vision algorithms will demonstrate the ability to detect differences in retinal images (current scan vs. baseline image). The device will be referred to as the Advanced Retinal Imager (ARI). Lessons learned from this device will be used to refine a final design suitable for use in spaceflight that can be built in a future phase. This device will save significant astronaut time due to the self-testing feature (only one astronaut needed to image the retina vs. two with the current technology) and not needing to dilate the pupil of the astronaut being imaged (vs. currently dilation takes an astronaut out of commission for several hours).</p>		

Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2017.
Bibliography Type:	Description: (Last Updated:)