

Fiscal Year:	FY 2020	Task Last Updated:	FY 01/28/2020
PI Name:	Zoldak, John		
Project Title:	rHealth One Flight Demonstration		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline--Element/Subdiscipline:			
Joint Agency Name:	TechPort:	No	
Human Research Program Elements:	(1) ExMC :Exploration Medical Capabilities		
Human Research Program Risks:	(1) Medical :Risk of Adverse Health Outcomes & Decrements in Performance due to Inflight Medical Conditions (IRP Rev I)		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
PI Email:	zoldakj@zin-tech.com	Fax:	FY
PI Organization Type:	INDUSTRY	Phone:	440.625.2334
Organization Name:	Zin Technologies, Inc.		
PI Address 1:	GRC-MS00		
PI Address 2:	6745 Engle Road		
PI Web Page:			
City:	Cleveland	State:	OH
Zip Code:	44130-7994	Congressional District:	16
Comments:			
Project Type:	FLIGHT	Solicitation:	Directed Research
Start Date:	11/18/2019	End Date:	06/18/2021
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:	Lehnhardt, Kris	Contact Phone:	281.244.0524
Contact Email:	kris.lehnhardt@nasa.gov		
Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Lewandowski, Beth Ph.D. (NASA Glenn Research Center)		
Grant/Contract No.:	Directed Research		
Performance Goal No.:			
Performance Goal Text:			
Task Description:	<p>For current spaceflight missions, NASA has the ability to return blood and urine samples to the ground for testing and evaluation. For long duration space missions, it will not be possible for ground testing of these flight samples. There is a need to evaluate if Commercial-Off-the-Shelf (COTS) medical devices, which can assay biologic fluids, function correctly in microgravity. The rHealth ONE platform will be certified for flight using the International Space Station (ISS) Commercial-Off-the-Shelf process. Vendor will perform minor modifications to the device to conform to flight certification requirements and to ensure ease of use for the crew (simpler fluid capture/containment and minimal user interaction). The flight device will demonstrate detection of a variety of relevant particulate matter in a control solution that is representative of blood cells and rHEALTH's proprietary nanostrips for soluble analytes. Those flight measurements will be compared to simultaneous ground measurements taken of the same batched control solution. The on-orbit demonstration will show that the rHealth ONE operates nominally in the microgravity environment.</p>		

Rationale for HRP Directed Research: This research is directed because it contains highly constrained research. In Planning, Programming, Budgeting, and Execution (PPBE) 20, Exploration Medical Capability (EMC) Human Research Program (HRP) element planned an ISS blood analysis technology demonstration in FY20. The rHealth ONE is the implementation of that scope of work. Task complies with the intent of Technology Development activities. Task TRL (Technology Readiness Level) is 5/6.

Research Impact/Earth Benefits:

Task Progress: New project for FY2020.

Bibliography Type: Description: (Last Updated:)