

Fiscal Year:	FY 2019	Task Last Updated:	FY 04/25/2019
PI Name:	Sit, Arthur M.D.		
Project Title:	Eye Vein Pressure Device		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline-- Element/Subdiscipline:			
Joint Agency Name:		TechPort:	Yes
Human Research Program Elements:	(1) HHC: Human Health Countermeasures		
Human Research Program Risks:	(1) SANS: Risk of Spaceflight Associated Neuro-ocular Syndrome (SANS)		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
PI Email:	sit.arthur@mayo.edu	Fax:	FY
PI Organization Type:	NON-PROFIT	Phone:	507-284-2787
Organization Name:	Mayo Clinic		
PI Address 1:	Department of Ophthalmology		
PI Address 2:	200 First Street SW		
PI Web Page:			
City:	Rochester	State:	MN
Zip Code:	55905	Congressional District:	1
Comments:			
Project Type:	GROUND	Solicitation / Funding Source:	Directed Research
Start Date:	04/01/2019	End Date:	01/31/2022
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:	
Contact Email:	Peter.norsk@nasa.gov		
Flight Program:			
Flight Assignment:	NOTE: End date changed to 1/31/2022 (original end date was 5/31/2020) per R. Schulte/HRP (Ed., 9/11/21) NOTE: End date changed to 3/31/2021 (original end date was 5/31/2020) per R. Schulte/HRP (Ed., 1/7/21) NOTE: End date changed to 12/31/2020 (original end date was 5/31/2020) per R. Schulte/HRP (Ed., 9/8/20)		
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Stenger, Michael Ph.D. (NASA Johnson Space Center)		
Grant/Contract No.:	Directed Research		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	This project will include development and production of two (2) minimally invasive devices to measure and analyze episcleral venous pressure in human subjects. The devices will be capable of making measurements in subjects positioned in the seated, supine, and head-down tilt postures. The devices will be delivered to and evaluated by the Johnson Space Center Cardiovascular & Vision Lab. This prototype hardware and software to measure the venous pressure draining the eye, if successful, could be incorporated into ongoing Spaceflight Associated Neuro-ocular Syndrome (SANS) research.
Rationale for HRP Directed Research:	This research is directed because NASA must define complete scientific activities in a short time and there is insufficient time to issue a solicitation. The device needs to be delivered in time to be evaluated as a tool for evaluating countermeasure effectiveness in the upcoming SANS Ground Analog Countermeasure Study at :envihab (FY 2020). Measurement of venous pressure draining the eye will be used as an objective measure of a countermeasure's ability to reverse the headward fluid shift associated with strict head-down tilt bed rest. Tentative development schedule requires 8-12 months before delivery. Directed task is required in order to meet schedule.
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2019.
Bibliography Type:	Description: (Last Updated:)