Fiscal Year:	FY 2022	Task Last Updated:	FY 01/26/2022
PI Name:	Davis, Catherine M. Ph.D.		
Project Title:	VNSCOR: Mechanisms of Radiation-Induced Change (80NSSC22K0022)	es in Sustained Attentior	and Social Processing
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline Element/Subdiscipline:			
Joint Agency Name:		TechPort:	No
Human Research Program Elements:	(1) HFBP:Human Factors & Behavioral Performance	e (IRP Rev H)	
Human Research Program Risks:	None		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
PI Email:	catherine.davis-takacs@usuhs.edu	Fax:	FY 301-400-4023
PI Organization Type:	NON-PROFIT	Phone:	301-400-4596
Organization Name:	Henry M. Jackson Foundation		
PI Address 1:	6720-A Rockledge Dr.		
PI Address 2:			
PI Web Page:			
City:	Bethesda	State:	MD
Zip Code:	20817-1891	Congressional District:	8
Comments:	Campus address (Jan 2022): Department of Pharmacc of the Health Sciences, 4301 Jones Bridge Road, Bett University; moved to Henry M. Jackson Foundation f	blogy and Molecular The hesda, MD 20814. NOTH for the Advancement of N	rapeutics, Uniformed Services University E: PI formerly at Johns Hopkins Military Medicine in fall 2020.
Project Type:	Ground	Solicitation / Funding Source:	2016-2017 HERO NNJ16ZSA001N-SRHHC. Appendix E: Space Radiobiology and Human Health Countermeasures Topics
Start Date:	12/14/2021	End Date:	12/13/2023
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:	Whitmire, Alexandra	Contact Phone:	
Contact Email:	alexandra.m.whitmire@nasa.gov		
Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Hienz, Robert Ph.D. (Johns Hopkins University) Robinson, Siobhan Ph.D. (Hamilton College)		
Grant/Contract No.:	80NSSC22K0022		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	 [Ed. note Jan 2022: Continuation with same Principal Investigator (PI) Dr. Catherine Davis, of "VISCOP: Kechanisms of Radiation-Induced Changes in Sustained Attention and Social Processing," grant #80NSSCISKI.0800 when PI was at Johns Hopkins University. See also project, "VNSCOP: Responses of the Nervous System to Chronic, Low Dose Charged Particle Irradiation" (Principal Investigator (PI): Greg Nelson)] NELSON/DAVIS VIRTUAL NASA Specialized Center of Research (NSCOR): The project is organized as 5 large experimental campaigns to quantify responses for an intercleade set of central nervous system (CNS) outcome measures in mice to acute and protracted exposures to 0.5 and 1.5 Gy of charged particles; and acute and protracted exposures to 0.5 and 1.5 Gy of charged particles; and acute and protracted exposures to 0.5 and 1.5 Gy of charged particles; and acute and protracted exposures to 1.5 Gy of agamma rays. This research builds on previous studies that demonstrated that proton and HZE (high charge energy) exposures result in individual differences in deficits in sustained attention, but more general deficits in recognition memory. This current project is combined with "Responses to the Nervous System to Chronic, Low Dosed Charged Particle Irradiation" (PI: Nelson) in order to explore if these effects and LTC (linear energy) atmaffer/dependent for 160 ions; add a relatively understudied, but important, ion (4He), and examine CNS effects in whole animals following fractionated exposures, and the interaction of other space flipt factors (e.g., sleep fragmentation). Revised Specific Aims: Aim 1a: Effects of protracted exposure to protons only Aim 14: Acute exposure to 4He (250 MeV/n) Aim 24: Chemogenetic silencing of mPFC subregions Specific Aims: P) Determine the effects of acute, single 160 and 4He ion exposures on sustained attention, social door recognition memory, and social dominance, (This aim has been modified in order to integrate with
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	The results of the current project will be used to understand how radiation exposure affects the central nervous system to induce deficits in neurobehavioral function.
Task Progress:	New project for FY2022. Note this is continuation, with same Principal Investigator (PI) Dr. Catherine Davis, of "VNSCOR: Mechanisms of Radiation-Induced Changes in Sustained Attention and Social Processing," grant 80NSSC18K1080 when PI was at Johns Hopkins University. See that project for previous reporting.
Bibliography Type:	Description: (Last Updated: 11/29/2024)