

Fiscal Year:	FY 2009	Task Last Updated:	FY 10/28/2008
PI Name:	O'Banion, Kerry M.D., Ph.D.		
Project Title:	Local CNS and Systemic Inflammatory Effects Following Proton and Mixed Particle Exposure		
Division Name:	Human Research		
Program/Discipline:	HUMAN RESEARCH		
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Radiation health		
Joint Agency Name:		TechPort:	No
Human Research Program Elements:	(1) SR :Space Radiation		
Human Research Program Risks:	(1) BMed :Risk of Adverse Cognitive or Behavioral Conditions and Psychiatric Disorders		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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City:	Rochester	State:	NY
Zip Code:	14642-0001	Congressional District:	25
Comments:			
Project Type:	Ground	Solicitation / Funding Source:	2008 Space Radiobiology NNJ08ZSA001N
Start Date:	11/01/2008	End Date:	10/31/2012
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:	Cucinott1a, Francis	Contact Phone:	281-483-0968
Contact Email:	noaccess@nasa.gov		
Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Finkelstein, Jacob (University of Rochester School of Medicine) Williams, Jacqueline (University of Rochester) Olschowka, John (University of Rochester School of Medicine) Hurley, Sean (University of Rochester Medical Center)		
Grant/Contract No.:	NNX08BA09G		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	This proposal continues our investigation of inflammatory responses following exposure to space radiation. In particular, we will explore the effects of protons and mixed particle radiation, at doses and fluences expected during space travel, in the brain and lung as well as the systemic circulation of mice. Dose and time dependent alteration in inflammatory indices will be correlated with brain and lung degenerative changes, including failure of hippocampal neurogenesis and alterations in hippocampal dependent learning. We will also explore whether space radiation influences Alzheimer's disease pathogenesis using a unique transgenic mouse model and lung inflammation following challenge with inhaled lipopolysaccharide. Together these studies will address specific gaps in our current knowledge about the acute and late effects of space radiation on vulnerable tissues.
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2009.
Bibliography Type:	Description: (Last Updated: 03/11/2025)