Fiscal Year:	FY 2013	**Task Last Updated:**	FY 11/13/2012
PI Name:	Wang, Minli M.D.		
Project Title:	Mechanistic Study of the Risk of Low Doses of HZE Particles on Human Cell Pre-Malignant Transformation		
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) **Cancer**:Risk of Radiation Carcinogenesis		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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PI Organization Type:	NON-PROFIT	**Phone:**	281-483-4986
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PI Address 1:	3600 Bay Area Blvd		
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City:	Houston	**State:**	TX
Zip Code:	77058-1113	**Congressional District:**	22
Comments:	USRA corporate address: 10211 WINCOPIN CIR 500, Columbia, MD 21044-3405.		
Project Type:	GROUND	**Solicitation / Funding Source:**	2012 Space Radiobiology NNJ12ZSA001N
Start Date:	10/01/2012	**End Date:**	11/30/2014
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:	Simonsen, Lisa	**Contact Phone:**	
Contact Email:	lisa.c.simonsen@nasa.gov		
Flight Program:			
Flight Assignment:	NOTE: Extended to 11/30/14 per PI; original end date was 9/30/13 (Ed., 7/31/13)		
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Wang, Ya (Emory University)		
Grant/Contract No.:	Internal Project		
Performance Goal No.:			
Performance Goal Text:			
Task Description:	Establishing the scientific basis of radiation cancer risk is a primary goal for the NASA Space Radiation Program. There are large uncertainties in approaches to extrapolate experimental or human epidemiology data from high to low doses, and from high LET to low LET radiation. In this proposed study, we will use the cell transformation (pre-malignance) assay, which occurs much earlier than carcinogenesis after radiation exposure, to elucidate mechanisms and to provide important quantitative data on radiation quality effects related to cancer risks from low doses of HZE particles. We proposed two aims to test our hypothesis that p63 plays an important role in HZE particle-induced human cell pre-malignant transformation. Aim1: Investigate how p63 promotes HZE particle-induced human epithelial cell transformation through the JAG1/Wnt4#Myc pathway. Aim2: Investigate how p63 promotes HZE particle-induced human epithelial cell transformation through the CD95#JNK#Jun pathway. The results from this proposal are expected		

	to reveal the importance of p63 in HZE particle-induced human epithelial cell transformation. Since majority of human tumors are derived from epithelial cells, the results from this proposal will make important contribution to the mechanism of HZE particle-induced carcinogenesis and therefore, providing valuable information for estimating the risk of space radiation-induced carcinogenesis and for further protection from such risk.
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2013.
Bibliography Type:	Description: (Last Updated: 12/09/2015)