

Fiscal Year:	FY 2010	Task Last Updated:	FY 09/03/2009
PI Name:	Catauro, Patricia M.S.		
Project Title:	Suited Contingency Ops Food		
Division Name:	Human Research		
Program/Discipline:	HUMAN RESEARCH		
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Space Human Factors Engineering		
Joint Agency Name:	TechPort:	Yes	
Human Research Program Elements:	(1) SHFH :Space Human Factors & Habitability (archival in 2017)		
Human Research Program Risks:	None		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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City:	Houston	State:	TX
Zip Code:	77058	Congressional District:	22
Comments:			
Project Type:	GROUND	Solicitation / Funding Source:	Directed Research
Start Date:	10/01/2008	End Date:	09/30/2011
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		
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Flight Program:			
Flight Assignment:	NOTE: Start date changed to 10/01/2008 per M. Perchonok (was 10/01/2007)--5/2009		
Key Personnel Changes/Previous PI:			
COI Name (Institution):			
Grant/Contract No.:			
Performance Goal No.:			
Performance Goal Text:			
Task Description:	<p>NASA is currently working to return to the Moon by 2020, in preparation for extending space exploration to Mars. The Crew Exploration Vehicle (CEV) is being designed to provide a livable pressurized environment for crew transport to these destinations. In the event of depressurization of the CEV, crew members will be required to operate while wearing individual pressurized suits. These suit systems are primarily being designed to maintain a pressurized environment and provide adequate oxygen for crew survival in such contingency situations. However, as the specific events that result in cabin depressurization are not typical, crews must be able to operate in suited systems under a variety of conditions. These conditions include both limited and extended duration activity, as well as intra-vehicular (IVA) and extra-vehicular activities (EVA). The goal of this project is to develop a Food System for use in these situations that will be compatible with IVA and EVA suit designs, and will provide adequate nutrient delivery to crew in long- and</p>		

	short-duration operations. The developed Suited Contingency Operations Food System may also be reapplied to support Lunar EVA Operations.
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	The study seeks to define a nutrition delivery system for in-suit use. The results have immediate relevance to the Constellation program, but may also prove useful for pharmaceutical, medical, and performance foods industries.
Task Progress:	Integration with representatives of the Constellation Space Suit Element (CSSE) design group has been initiated and will continue into FY10. The Advanced Food Technology (AFT) group will likely collaborate with CSSE throughout the maturation of the feed port design. Additionally, AFT will continue to integrate with relevant Constellation medical operations to finalize in-suit nutrition requirements. Specifically, AFT will participate in a meeting with the EVA Physiology, Systems, and Performance (EPSP) project and other interested parties in Quarter 4 of FY09 to define a formal set of nutrition requirements. These requirements will guide the development of in-suit nutrition capability through FY10-11.
Bibliography Type:	Description: (Last Updated: 03/22/2018)