

<b>Fiscal Year:</b>	FY 2013	<b>Task Last Updated:</b>	FY 10/24/2012
<b>PI Name:</b>	Barrett, Ann Ph.D.		
<b>Project Title:</b>	Stabilized Foods for Use in Extended Spaceflight: Preservation of Shelf-Life, Nutrient Content and Acceptability		
<b>Division Name:</b>	Human Research		
<b>Program/Discipline:</b>	HUMAN RESEARCH		
<b>Program/Discipline-- Element/Subdiscipline:</b>	HUMAN RESEARCH--Space Human Factors Engineering		
<b>Joint Agency Name:</b>	<b>TechPort:</b>	No	
<b>Human Research Program Elements:</b>	(1) <b>HHC:</b> Human Health Countermeasures		
<b>Human Research Program Risks:</b>	(1) <b>Food and Nutrition:</b> Risk of Performance Decrement and Crew Illness Due to Inadequate Food and Nutrition		
<b>Space Biology Element:</b>	None		
<b>Space Biology Cross-Element Discipline:</b>	None		
<b>Space Biology Special Category:</b>	None		
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<b>PI Organization Type:</b>	GOVERNMENT	<b>Phone:</b>	508-233-4516
<b>Organization Name:</b>	United States Department of the Army		
<b>PI Address 1:</b>	NSDREC, CFD/PORT, RDNS-CFP		
<b>PI Address 2:</b>	U.S. Army Natick Soldier Systems Center		
<b>PI Web Page:</b>			
<b>City:</b>	Natick	<b>State:</b>	MA
<b>Zip Code:</b>	01760-5018	<b>Congressional District:</b>	7
<b>Comments:</b>			
<b>Project Type:</b>	GROUND	<b>Solicitation / Funding Source:</b>	2011 Crew Health NNJ11ZSA002NA
<b>Start Date:</b>	11/01/2012	<b>End Date:</b>	10/31/2015
<b>No. of Post Docs:</b>	<b>No. of PhD Degrees:</b>		
<b>No. of PhD Candidates:</b>	<b>No. of Master' Degrees:</b>		
<b>No. of Master's Candidates:</b>	<b>No. of Bachelor's Degrees:</b>		
<b>No. of Bachelor's Candidates:</b>	<b>Monitoring Center:</b> NASA JSC		
<b>Contact Monitor:</b>	Douglas, Grace	<b>Contact Phone:</b>	
<b>Contact Email:</b>	<a href="mailto:grace.l.douglas@nasa.gov">grace.l.douglas@nasa.gov</a>		
<b>Flight Program:</b>			
<b>Flight Assignment:</b>	NOTE: Changed from NSBRI to NASA-monitored project, per M. Perchonok/NASA JSC (Ed., 2/25/2013)		
<b>Key Personnel Changes/Previous PI:</b>			
<b>COI Name (Institution):</b>	Froio, Danielle ( United States Department of the Army ) Richardson, Michelle ( United States Department of the Army )		
<b>Grant/Contract No.:</b>	NNJ13HA911		
<b>Performance Goal No.:</b>			
<b>Performance Goal Text:</b>			

<b>Task Description:</b>	The objective of this effort is to develop shelf stable, highly acceptable, food with increased nutrient (vitamins) stability for extended space missions utilizing innovative processing and packaging technologies. There will be two research thrusts. For the first thrust area, we will formulate, test, and optimize the quality and nutrient content of a range of fortified shelf-stable foods. The focus will be on extruded/pressed low-water activity bar-type products. Advances in innovative pre-treatment technologies (encapsulation) for vitamins will be assessed, as well as synergy with matrix chemical character. For the second thrust area, different packaging technologies will be investigated with research focused on the interaction of packaging material with various innovative sterilization processes such as microwave heating, irradiation, and high pressure treatment. The availability of highly nutritious and health-promoting food is a factor that is a significant prerequisite for prolonged space travel. The design of feeding and nutritional strategies for multi-year, non-resupplied flights is an undertaking requiring substantial research and development; it is also an endeavor and that could be founded upon our existing, considerable knowledge and experience base at Natick Soldier RD&E Center.
<b>Rationale for HRP Directed Research:</b>	
<b>Research Impact/Earth Benefits:</b>	
<b>Task Progress:</b>	New project for FY2013.
<b>Bibliography Type:</b>	Description: (Last Updated: 08/25/2020)