

Fiscal Year:	FY 2012	Task Last Updated:	FY 10/05/2012
PI Name:	Fischer, Ute Ph.D.		
Project Title:	Protocols for Asynchronous Communication in Space Operations: Communication Analysis		
Division Name:	Human Research		
Program/Discipline:	HUMAN RESEARCH		
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Behavior and performance		
Joint Agency Name:		TechPort:	Yes
Human Research Program Elements:	(1) BHP :Behavioral Health & Performance (archival in 2017)		
Human Research Program Risks:	(1) HSIA :Risk of Adverse Outcomes Due to Inadequate Human Systems Integration Architecture (2) Team :Risk of Performance and Behavioral Health Decrements Due to Inadequate Cooperation, Coordination, Communication, and Psychosocial Adaptation within a Team		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
PI Email:	ute.fischer@gatech.edu	Fax:	FY
PI Organization Type:	UNIVERSITY	Phone:	404-894-7627
Organization Name:	Georgia Institute of Technology		
PI Address 1:	School of Literature, Communication and Culture		
PI Address 2:	686 Cherry Street		
PI Web Page:			
City:	Atlanta	State:	GA
Zip Code:	30332-0165	Congressional District:	5
Comments:			
Project Type:	GROUND	Solicitation / Funding Source:	2011 Crew Health NNJ11ZSA002NA
Start Date:	09/06/2012	End Date:	09/05/2015
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:	Leveton, Lauren	Contact Phone:	
Contact Email:	lauren.b.leveton@nasa.gov		
Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Mosier, Kathleen (California State University, San Fransisco)		
Grant/Contract No.:	NNX12AR19G		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	Effective and efficient communication between Mission Control and space crews is essential for successful task performance and mission safety. The importance of team communication is heightened when unforeseen problems arise, such as system failures that are time-critical and require extensive coordination and collaboration between space and ground crews. During long duration missions and missions beyond Low Earth Orbit, space-ground communications will involve delays up to 20 minutes one way, a reality that poses a formidable challenge to team communication and task performance. This project will determine how transmission delays impact team communication, teamwork and task performance in relation to varying task demands and media constraints. A series of four studies will be conducted involving laboratory experiments and research in space-analog environments. The overall aim of the proposed research is to develop and validate protocols supporting Mission Control–space crew communication and collaboration during long-duration space missions. Specific project goals are: (1) Determine the impact of communication delays on communication, teamwork and task performance in relation to varying task demands, i.e., procedural tasks vs. tasks requiring analysis and decision making, and different communication media (voice vs. text). (2) Develop and validate measures to assess and characterize team communication effectiveness and task performance in relation to different operational tasks. (3) Develop and validate communication protocols to support joint problem solving and decision making by mission controllers and space crews during periods of asynchronous communication.
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2012.
Bibliography Type:	Description: (Last Updated: 03/22/2024)