Task Book Report Generated on: 06/30/2025

Project Title: Generalizable Skills and Knowledge for Exploration Missions Frogram/Discipline: Program/Discipline- Element/Subdiscipline: Frogram/Discipline- Element/Subdiscipline: ItUMAN RESEARCH-Space Human Factors Engineering Joint Agency Name: It was a Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (1) HEBP Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (2) Human Factors & Behavioral Performance (RP Rev H) Human Research Program Risks: (3) Human Research Program Risks: (4) Human Research Program Risks: (4) Human Research Program Risks: (5) Human Research Program Risks: (6) Human Research Program Risks: (6) Human Research Program Risks: (7) Human Research Program Risks: (8) Hu	Y1	771.2010		TV 00 (10 (2010
Project Title: Generalizable Skills and Knowledge for Exploration Missions Bluram Research Program/Discipline: Program/Discipline: IIUMAN RESEARCIL-Space Human Factors Engineering Elements/Subliscipline: IIUMAN RESEARCIL-Space Human Factors Engineering Elements/Subliscipline: IIIIman Research Program Elements: (1) IIIIIII Alliana Research Program Risks: (1) IIIII Alliana Research Program Risks: (1) IIIII Alliana Research Program Risks: (2) IIIII Alliana Research Program Risks: (3) IIIII Alliana Research Program Risks: (4) None Blooding Element: None Blooding Element: None Blooding Special Category: None Pl Fanalt: Instruction Space Blooding Special Category: Pl P Fanalt: Instruction Space Blooding Special Category: Pl P Fanalt: Instruction Space Blooding Special Category: INDUSTRY Phone: INDUSTRY Phone: INDUSTRY Phone: Instruction Space Blooding Special Category: Pl Address I: Project Type: Ground Solicitation Funding 2014-15 HERO NOULAZSA00IN-Creen Start Date: Opinion Start Date:	Fiscal Year:	FY 2018	Task Last Updated:	FY 08/10/2018
Defision Name: Human Research Program/Discipline- Program/Discipline- Bloom Agency Name: IIUMAN RESEARCH-Space Human Factors Engineering Bloom Agency Name: TechPort: No Human Research Program Elements: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HFBP-Human Factors & Behavioral Performance; Previous Performance (IRP Rev II) Human Research Program Risks: (1) Himan Program Risks: (1) Himan Risks (II)		Stuster, Jack W. Ph.D.		
Program/Discipline: Program/Discipline: Program/Discipline: District Agency Name: IIUMAN RESEARCIT-Space Human Tactors Engineering Human Research Program Elements: (1) HFRP-Human Factors & Rehavioral Performance (IRP Rev H) Human Research Program Elements: (1) HFRP-Human Factors & Rehavioral Performance (IRP Rev H) Human Research Program Elements: (1) HGMA RESEARCIT-Space Human Systems Integration Architecture Space Hidogy Element: None Space Hidogy Special Category: None Pl Emult: intergramanceassciences.com Pl Emult: intergramanceassciences.com Pl Emult: Intergramanceassciences.com Pl Address 1: Pl Address 2: Pl Address 2: Pl Web Page: Interface State State State CA Congrasiation Name: None State CA Congressional District: 24 Comments: Now address per Pf (12/2012): previous address-301 East Carnillo Street, Santa Barbara, CA Project Type: Ground State Date: 09/10/2015 End Source: 109/10/2015 End Source:	Project Title:	Generalizable Skills and Knowledge for Exploration Missions		
Program Discipline- Clement Shudscipline- Clement Shudscipline- Clement Shudscipline- No.	Division Name:	Human Research		
Element/Subdiscipline: HUMAN RESEARCH-Space Human Factors Engineering TechPort: No	Program/Discipline:			
Human Research Program Elements: (1) HBP-Human Factors & Behavioral Performance (IRP Rev II) Human Research Program Risks: (1) HSIA: Risk of Adverse Outcomes Due to Inadequate Human Systems Integration Architecture Space Biology Cross-Element Brecipline: None Pageace Biology Cross-Element Brecipline: None PI Email: Stutete@macanessiences.com Fax: FY Phone: 805-680-1315 Ph	Program/Discipline Element/Subdiscipline:	HUMAN RESEARCHSpace Human Factors Er	ngineering	
Human Research Program Risks: (I) HSIA;Risk of Adverse Outcomes Due to Inadequate Human Systems Integration Architecture None None None Space Biology Cross-Element Space Biology Special Category: None Pl Email: Subster® unaconsciences.com Fax: FY Phone: 805-680-1315 Organization Type: NDUSTRY Phone: 805-680-1315 Organization Name: Anacapa Sciences, Inc. Pl Address 1: 1516 Marquard Terrace Pl Address 2: Pl Web Page: Intro/Nowwa.nancenosciences.com State: CA Zip Code: 9310-4967 Congressional District: 24 Comments: New address per Pl (12/2012); previous address-301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNI14ZSA00IN-Crew Source: Ileulth (ILAGSIIIP & NSBRI) Start Date: 9710/2015 End Date: No. of PhD Degrees: 0 No. of PhD Degrees: 0 No. of PhD Degrees: 0 No. of Master' Scandidates: 1 No. of Bachelor's Candidates: 1 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Lemma 1: Lemma 1: whemas is will Romasa gov Flight Program: NOTE: Change in grant number to NNSSC 18K0042 per NSSC information (Ed., 6/12/18) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) NOTE: Element	Joint Agency Name:		TechPort:	No
Space Biology Cross-Element Space Biology Cross-Element Space Biology Special Category: None PI Email: istuster/Ganacipotsciences.com PI Email: istuster/Ganacipotsciences.com PI Address 1: 1516 Marquard Terrace PI Address 2: PI Web Page: http://www.anacapatsciences.com City: Santa Barbura State: CA 24 24 25 Congressional District: 24 26 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	Human Research Program Elements:	(1) HFBP :Human Factors & Behavioral Performa	ance (IRP Rev H)	
Space Biology Cross-Element Discipline: None PI Email: istustor/Ganacanasciences.com Fax: FY PI Organization Type: NDUSTRY Phone: 805-680-1315 Organization Type: INDUSTRY Phone: 805-680-1315 Organization Name: Anneapa Sciences. Inc. PI Address 1: 1516 Marquard Terrace PI Address 2: PI Address 2: PI Web Page: http://www.anneapasciences.com City: Santa Barbara State: CA Zip Code: 93101-4967 Congressional District: 24 Comments: New address per PI (12/2012); previous address-301 East Cartillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-115 HERO NNJ14ZSA001N-Crew Source: Health (ELAGSHIP & NSBRI) Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Does: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 thomas j.will [@mass_gov] Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSC information (Ed., 6/12/18) NOTE: Glange in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	Human Research Program Risks:	(1) HSIA:Risk of Adverse Outcomes Due to Inadequate Human Systems Integration Architecture		
Space Biology Special Category: None Space Biology Special Category: None Pt Email: Statet of Anneapa Sciences Com	Space Biology Element:	None		
PI Email: istuster@anacapassciences.com Fax: FY PI Organization Type: INDUSTRY Phone: 805-680-1315 Organization Type: INDUSTRY Phone: 805-680-1315 Organization Name: Anacapa Sciences, Inc. PI Address 1: 1516 Marquard Terrace PI Address 2: PI Web Page: http://www.anacapassciences.com City: Santa Barbara State: CA Zip Code: 93101-4967 Congressional District: 24 Comments: New address per PI (12/2012); previous address—301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNJ14ZSA001N-Crew Source: Health (FLACISHIP & NSBRI) Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Does: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Obgrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: thomas ivilli@nasa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/1218) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byme, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	Space Biology Cross-Element Discipline:	None		
PI Organization Type: INDUSTRY Phone: 805-680-1315 Organization Name: Anacapa Sciences, Inc. PI Address 1: 1516 Marquard Terrace PI Address 2: PI Web Page: http://www.anacapasciences.com City: Santa Barbara State: CA Zip Code: 93101-4967 Congressional District: 24 Comments: New address per PI (12/2012); previous address301 East Carrillo Street, Stanta Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNJ14ZSA001N-Crew Source: Health (FLAGSHIP & NSBR)) Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Dues: 0 No. of PhD Dagress: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Master's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: thomas: will (Januas acov) Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byme, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byme, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byme, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G	Space Biology Special Category:	None		
Organization Name: Anacapa Sciences, Inc. PI Address 1: 1516 Marquard Terrace PI Address 2: PI Web Page: http://www.anacapasciences.com City: Santa Barbara State: CA Cip Code: 93101-4967 Comments: New address per PI (12/2012); previous address—301 East Carrillo Street, Santa Barbara, CA Comments: Oeva address per PI (12/2012); previous address—301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding Source: Health (FLAGSHIP & NSBRI) Start Date: O9/10/2015 End Date: 08/09/2019 No. of PhaD Degress: 0 No. of Master's Candidates: 0 No. of Master's Candidates: 1 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Email: http://www.anacapasciences.com NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byme, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	PI Email:	jstuster@anacapasciences.com	Fax:	FY
PI Address 1: 1516 Marquard Terrace PI Address 2: PI Web Page: http://www.anacapasciences.com City: Santa Barbara State: CA Zip Code: 93101-4967 Congressional District: 24 Comments: New address per PI (12/2012); previous address-301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNJ14ZSA001N-Crew Solicitation / Fun	PI Organization Type:	INDUSTRY	Phone:	805-680-1315
Pl Address 2: Pl Web Page: http://www.anacapasciences.com City: Santa Barbara State: CA Zip Code: 93101-4967 Congressional District: 24 Comments: New address per Pl (12/2012); previous address—301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNJ14ZSA001N-Crew Source: Health (FLAGSHIP & NSBRI) Start Date: 09/10/2015 End 30 80/9/2019 No. of Phol Degrees: 08/09/2019 No. of Phol Degrees: 0 No. of Phol Degrees: 0 No. of Master's Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: thomas, will I@masa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	Organization Name:	Anacapa Sciences, Inc.		
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City: Santa Barbara State: CA Zip Code: 93101-4967 Congressional District: 24 Comments: New address per PI (12/2012); previous address—301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNJ14ZSA001N-Crew Source: Health (FLAGSHIP & NSBRI) Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Does: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: homas.i.willi@nasa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	PI Address 2:			
Zip Code: 93101-4967 Congressional District: 24 Comments: New address per PI (12/2012); previous address—301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNJ14ZSA001N-Crew Source: Health (FLAGSHIP & NSBRI) Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Docs: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Master's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: thomas_i.willl@nasa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	PI Web Page:	http://www.anacapasciences.com		
New address per PI (12/2012); previous address—301 East Carrillo Street, Santa Barbara, CA Project Type: Ground Solicitation / Funding 2014-15 HERO NNJ14ZSA001N-Crew Source: Health (FLAGSHIP & NSBRI) Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Docs: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Email: thomas_i,will1@nasa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	City:	Santa Barbara	State:	CA
Project Type: Ground Solicitation / Funding Source: Health (FLAGSHIP & NSBRI) Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Docs: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: homas_i_will1@nasa_gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/12/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	Zip Code:	93101-4967	Congressional District:	24
Start Date: 09/10/2015 End Date: 08/09/2019 No. of Post Does: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: homas_i_will1@nasa_gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/12/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center)	Comments:	New address per PI (12/2012); previous address-	301 East Carrillo Street, Santa	Barbara, CA
No. of Post Docs: 0	Project Type:	Ground		
No. of PhD Candidates: 0 No. of Master' Degrees: 0 No. of Master's Candidates: 1 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: thomas j.will1@nasa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	Start Date:	09/10/2015	End Date:	08/09/2019
No. of Master's Candidates: 1	No. of Post Docs:	0	No. of PhD Degrees:	0
No. of Bachelor's Candidates: No. of Bachelor's Candidates: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: thomas.j.will1@nasa.gov NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	No. of PhD Candidates:	0	No. of Master' Degrees:	0
Contact Monitor: Williams, Thomas Contact Phone: 281-483-8773 Contact Email: thomas.j.will1@nasa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	No. of Master's Candidates:	1.	No. of Bachelor's Degrees:	0
Contact Email: thomas.j.will1@nasa.gov Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	No. of Bachelor's Candidates:	0	Monitoring Center:	NASA JSC
Flight Program: NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	Contact Monitor:	Williams, Thomas	Contact Phone:	281-483-8773
NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18) NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17) NOTE: Element change to Human Factors & Behavioral Performance; previously Space Human Factors & Habitability (Ed., 1/19/17) Key Personnel Changes/Previous PI: COI Name (Institution): Adolf, Jurine Ph.D. (NASA Johnson Space Center) Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	Contact Email:	thomas.j.will1@nasa.gov		
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Byrne, Vicky M.S. (Lockheed Martin/NASA Johnson Space Center) Grant/Contract No.: 80NSSC18K0042; NNX16AQ86G; NNX15AW34G Performance Goal No.:	Key Personnel Changes/Previous PI:			
Performance Goal No.:	COI Name (Institution):			
	Grant/Contract No.:	80NSSC18K0042; NNX16AQ86G; NNX15AW	734G	
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Task Book Report Generated on: 06/30/2025

Task Description:

This research is using a proven method to identify the abilities and skills necessary to perform the work expected of exploration crews and to develop recommendations for optimum training and crew selection. The process began by developing a comprehensive inventory of tasks based on a review of existing mission planning documents and interviews with astronauts and other experts. The inventory is composed of more than 1,100 tasks listed in 12 mission phases. A quantitative analysis of the tasks was performed during Year 2 in conjunction with a systematic assessment of physical, cognitive, and social abilities required to perform the expedition tasks (using Fleischman definitions augmented with job-specific abilities when needed). The task and ability analyses were conducted with the assistance of astronauts, mission planners, training experts and others and resulted in a data-driven understanding of the knowledge, skills, and abilities necessary to perform the tasks expected for exploration-class space missions. The key skills and abilities identified by the process were assessed for generalizability and then optimum strategies for ensuring that those skills and abilities are possessed by expedition crew members when needed were developed. Study results will provide the information necessary to close the target research gaps; in addition, results of the task and ability analyses will be useful to the designers of missions, procedures, software, equipment, and habitats, and to those responsible for crew composition. All work will be completed within the specified three-year period of performance by an experienced team of human factors and training specialists.

NOTE: Change in grant number to 80NSSC18K0042 per NSSC information (Ed., 6/12/18)

NOTE: Change in grant number to NNX16AQ86G by NSSC and grant extended to 8/09/2019, per D. Risin/JSC (Ed., 6/21/17)

Rationale for HRP Directed Research:

Research Impact/Earth Benefits:

The method that was developed for this project to identify and analyze expected tasks during a three-year expedition to Mars could serve as a model for future human factors research concerning large-scale systems. The number of tasks identified is an order of magnitude larger than that of a typical HF (human factors) analysis, and the complexity of the systems involved and the duration of the expedition render the effort unique.

SEPTEMBER 2017 - AUGUST 2018

The project began by developing a comprehensive inventory of 1,125 tasks that are likely to be performed during the 12 phases of the first human expedition to Mars, from launch to landing 30 months later. More than 60 subject matter experts (SMEs) rated major categories of expedition tasks in terms of (likely) frequency, difficulty to learn, and importance to mission success; a fourth metric was derived by combining the mean ratings of the three dimensions. SMEs also placed the physical, cognitive, and social abilities necessary for performance of the tasks in order of importance for specialist domains identified by the task analysis. The research team then identified, 1) Abilities, skills, and knowledge that can be retained and generalized across tasks; 2) Optimum training strategies; and 3) Implications for crew size and composition. Study results also led to recommendations concerning equipment, habitats, and procedures for exploration-class space missions. A final report is currently being prepared that describes why the study was conducted, documents the research tasks performed, presents study results, and concludes with a discussion of operational implications and recommendations based on those results. The report includes the Mars expedition task lists and tasks lists for Gateway missions (formerly known as Deep Space Gateway and Lunar Orbital Platform missions).

Bibliography Type:

Task Progress:

Description: (Last Updated: 11/13/2019)

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