Task Book Report Generated on: 04/26/2024

Pf Name: Oubre, Cherie Ph.D. Project Title: Culture-based Environmental Monitoring of Crop-based Space Food Systems Division Name: Human Research Program/Discipline: Program/Discipline: Program/Discipline: Program/Discipline: Program/Discipline: Program/Discipline: Program/Discipline: Program/Discipline: Program/Discipline:	Fiscal Year:	FY 2022	Task Last Updated:	FY 05/06/2022
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Division Name: Human Research Program Discipline: Program Discipline- Element/Subdiscipline- Element/Subdiscipline				
Program/Discipline: Program/Discipline- Element/Subdiscipline- Element/Subdiscipline- Joint Agency, Name: It was a Research Program Elements: (1) HHC-Human Health Countermeasures Human Research Program Elements: (1) Microbost/Risk of Adverse Health Effects Due to Host-Microorganism Interactions Space Biology Cross-Element Space Biology Cross-Element Nome Space Biology Cross-Element Discipline: Program Space Biology Special Category: None PI Email: checiem coubses/finana.nov Fax: FY Phone: 281-483-6548 Organization Type: NASA CENTER Phone: 281-483-6548 Organization Name: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASA/SKC PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77088 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Project Type: No. of Post Does: 0 No. of Post Does: No. of Post Does: No. of Post Does: No. of Post Does: No. of Master's Candidates: 0 No. of Bachelor's Candidates: 0 No. of Bachelor's Candidates: No. of Element: NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End date changed to 12772023 per T. Sirmone/NASA JSC. (Ed., 3/22/22) NOTTE: End d	Troject Title.	Culture based Environmental Montoring of Crop of	ased Space 1 ood Systems	
Program/Discipline- Elements No No No No No No No N	Division Name:	Human Research		
Element/Subdiscipline: Joint Agency Name: None Space Biology Element: None Space Biology Cross-Element Discipline: Space Biology Special Category: None PI Email: Space Biology Special Category: None PI Email: Space Biology Special Category: None PI Email: Joint Agency Name: NASA Johnson Space Center PI Address 1: Joint Agency Name: NASA Johnson Space Center PI Address 2: PI Web Page: City: Joint Houston Joint Name: J	Program/Discipline:			
Human Research Program Elements: (1) IHIC-Human Health Countermeasures Human Research Program Risks: (1) Microhust-Risk of Adverse Health Effects Due to Host-Microorganism Interactions Space Biology Cross-Element: None Space Biology Cross-Element: None Space Biology Special Category: None PI Email: sherie mouther@mass.cov Fax: FY Pl Organization Type: NASA Counter Risks: Pl Organization Name: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASA/JSC PI Human Research Program Risks: Congressional District: 2400 NASA Parkway, NASA/JSC PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 26 Congressional District: Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/202/3 No. of Post Does: 0 No. of Phot Deardidates: 0 No. of Phot Deardidates: 0 No. of Master' Degrees: No. of Master's Candidates: 0 No. of Master's Degrees: No. of Master's Candidates: 0 No. of Master's Degrees: No. of Master's Candidates: 0 No. of Master's Degrees: No. of Master's Candidates: 0 No. of Bachelor's Candidates: No. of Master's Candidates: No. of	Program/Discipline Element/Subdiscipline:			
Human Research Program Risks: (I) Microhost-Risk of Adverse Health Effects Due to Host-Microorganism Interactions Space Biology Cross-Element Space Biology Cross-Element Discipline: None Space Biology Special Category: None PI Email: cheric moubre@nass.gov. Fax: FY PI Organization Type: NASA CENTER NASA CENTER Phone: 281-483-6548 Organization Name: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASA/JSC PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FI.GHT Solicitation / Funding Source: Directed Research Start Date: 1217/2018 End Date: 1207/2023 No. of PhD Degrees: No. of PhD Degrees: No. of PhD Degrees: No. of Master's Candidates: 0 No. of Bachelor's Candidates: No. of Master's Candidates: No. of Bachelor's Candida	Joint Agency Name:		TechPort:	No
Space Biology Cross-Element Space Riology Cross-Element Discipline: None None PI Email: cheric moubre@masu.gov. PI Address J: PI Address I: 2400 NASA Parksway, NASA/JSC PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: Siart Date: 12/17/2018 Ed and Date: 12/17/2018 No. of Post Does: No. of PhD Candidates: 0 No. of Master' Degrees: No. of Bachelor's Candidates: 0 No. of Bachelor's Candidates: No. of Bachelor's Degrees: No. of Bachelor's Candidates: No. of Bachelor's Degrees: No.	Human Research Program Elements:	(1) HHC :Human Health Countermeasures		
Space Biology Cross-Element Discipline: None PI Email: sherie moubresémasa eov Fax: FY Pl Organization Type: NASA CENTER Phone: 281-483-6548 Organization Name: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASA/JSC PI Address 2: PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Does: 0 No. of Phat Degrees: 2 No. of Post Does: 0 No. of Master' Degrees: 4 No. of Bachelor's Candidates: 0 No. of Master' Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: No. of State Email: Michael Contact Monitor: Stenger, Michael Contact Email: michael Astengeri@nasa.gov Flight Program: IS Report Updates: added Tamer Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigations because of their expertise in processing microbiology surface samples returned from space/light. COIL Name (Institution): Proceed Research Dunbar (May 2022 Report) as co-investigations because of their expertise in processing microbiology surface samples returned from space/light. COIL Name (Institution): Directed Research Dunbar (Es Tech-NASA Johnson Space Center) Lamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center) Dunbar, Imamilton, Tamer B.S. (JES Tech-NASA Johnson Space Center)	Human Research Program Risks:	(1) Microhost: Risk of Adverse Health Effects Due to Host-Microorganism Interactions		
Discipline: "None Space Biology Special Category: None PI Email: cheric moubeofanasa gov Fax: PY PI Organization Type: NASA CENTER Phone: 281-483-6548 Organization Name: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASA/JSC PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of Phot Degrees: 2 No. of Post Docs: 0 No. of Master' Degrees: 1 No. of Bachelor's Organization / State: No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 1 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: No. of Bachelor's Degrees: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael b stenger/funesa gov Flight Program: IS NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 12/7/2023 per T. Simons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed	Space Biology Element:	None		
PI Email: cherie in oubre@nasa.gov Fax: FY PI Organization Type: NASA CENTER Phone: 281-483-6548 Organization Type: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASA/JSC PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of PhD Candidates: 0 No. of Master' Degrees: 4 No. of Master's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Honitor: 281-483-1311 Contact Email: michael b. stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from space(fight.) COI Name (Institution): City Correct Research Performance Goal No.:	Space Biology Cross-Element Discipline:	None		
PI Organization Type: NASA CENTER Phone: 281-483-6548 Organization Name: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASA/JSC PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of PD Candidates: 0 No. of Master' Degrees: 4 No. of Master's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: No. of Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Homit: michael.b stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from space(Elight, Tanner B.S. (EBRNASA Johnson Space Center) Castro, Victoria B.S. (KBRNASA Johnson Space Center) Castro, Victoria B.S. (KBRNASA Johnson Space Center) Hamilton, Tanner B.S. (EBS TechNASA Johnson Space Center) Castro, Victoria B.S. (KBRNASA Johnson Space Center)	Space Biology Special Category:	None		
Organization Name: NASA Johnson Space Center PI Address 1: 2400 NASA Parkway, NASAJSC PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Does: 0 No. of PhD Degrees: 2 No. of Post Does: 0 No. of PhD Degrees: 2 No. of PhD Candidates: 0 No. of PhD Degrees: 2 No. of Master's Candidates: 0 No. of Master' Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael b stenger@masa.gov Flight Program: ISS Key Personnel Changes/Previous PI: NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) COI Name (Institution): Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. COI Name (Institution): Directed Research Performance Goal No.:	PI Email:	cherie.m.oubre@nasa.gov	Fax:	FY
PI Address 1: 2400 NASA Parkway, NASA/JSC PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Etart Date: 12/17/2018 End Date: 12/07/2023 No. of Post Doess: 0 No. of PhD Degrees: 2 No. of Post Doess: 0 No. of Master' Degrees: No. of Pab Candidates: 0 No. of Master' Degrees: No. of Master's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Master' Degrees: 1 No. of Bachelor's Candidates: 0 Contact Phone: 281-483-1311 Contact Email: michael.b. stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Casto, Victoria B. S. (KBR/NASA Johnson Space Center) Lamilton, Tamer B. S. (JES Tech/NASA Johnson Space Center) Hamilton, Tamer B. S. (JES Tech/NASA Johnson Space Center) Hamilton, Tamer B. S. (JES Tech/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center)	PI Organization Type:	NASA CENTER	Phone:	281-483-6548
PI Address 2: PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of PhD Candidates: 0 No. of Master Degrees: 4 No. of Master's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael b stenger@nasa.gov Flight Program: ISS Flight Assignment: NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 19/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. COI Name (Institution): Christian (Institution): Directed Research Dunbar, (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. COI Name (Institution): Directed Research Performance Goal No.:	Organization Name:	NASA Johnson Space Center		
PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of PhD Candidates: 0 No. of Master' Degrees: 4 No. of Bachelor's Candidates: 0 No. of Master' Degrees: 4 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael.b.stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. COI Name (Institution): Oft, Mark Ph.D. (NASA Johnson Space Center) Hamilton, Tranner B.S. (JES Tech/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center)	PI Address 1:	2400 NASA Parkway, NASA/JSC		
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Zip Code: 77058 Congressional District: 36 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of PhD Candidates: 0 No. of Master' Degrees: 4 No. of Master's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael b. stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. COI Name (Institution): Castro, Victoria B.S. (KBR/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center) Performance Goal No.:	PI Web Page:			
Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of Post Docs: 0 No. of Master' Degrees: 2 No. of PhD Candidates: 0 No. of Master' Degrees: 4 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael.b.stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. COI Name (Institution): Ort, Mark Ph.D. (NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Unnbar, Grando (GeoControls/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center) Performance Goal No.:	City:	Houston	State:	TX
Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of PhD Candidates: 0 No. of Master' Degrees: 4 No. of Master's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael.b.stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. COI Name (Institution): Ott, Mark Ph.D. (NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Grant/Contract No.: Directed Research Performance Goal No.:	Zip Code:	77058	Congressional District:	36
Start Date: 12/17/2018 End Date: 12/07/2023 No. of Post Docs: 0 No. of PhD Degrees: 2 No. of PhD Candidates: 0 No. of Master' Degrees: 4 No. of Master's Candidates: 0 No. of Bachelor's Degrees: 4 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael.b.stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. Ott, Mark Ph.D. (NASA Johnson Space Center) Castro, Victoria B.S. (KBR/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Mena, Christian (JES Tech/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center)	Comments:			
No. of Post Docs: 0	Project Type:	FLIGHT	Solicitation / Funding Source:	Directed Research
No. of PhD Candidates: No. of Master's Candidates: No. of Master's Candidates: No. of Bachelor's Candidates: Contact Monitoric Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael.b.stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per Pl (Ed., 10/8/21) Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. Ott, Mark Ph.D. (NASA Johnson Space Center) Castro, Victoria B.S. (EBR/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Mena, Christian (JES Tech/NASA Johnson Space Center) Ounbar, Brandon (GeoControls/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center) Performance Goal No.:	Start Date:	12/17/2018	End Date:	12/07/2023
No. of Master's Candidates: 0	No. of Post Docs:	0	No. of PhD Degrees:	2
No. of Bachelor's Candidates: Ottact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael.b.stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. Ott, Mark Ph.D. (NASA Johnson Space Center) Castro, Victoria B.S. (JES Tech/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Mena, Christian (JES Tech/NASA Johnson Space Center) Grant/Contract No.: Directed Research Performance Goal No.:	No. of PhD Candidates:	0	No. of Master' Degrees:	
Contact Monitor: Stenger, Michael Contact Phone: 281-483-1311 Contact Email: michael.b.stenger@nasa.gov Flight Program: ISS NOTE: End date changed to 12/7/2023 per T. Sirmons/NASA JSC. (Ed., 3/22/22) NOTE: End date changed to 9/30/2022 per PI (Ed., 10/8/21) Key Personnel Changes/Previous PI: Report Updates: added Tanner Hamilton (September 2020 Report), Christian Mena (May 2022 Report) and Brandon Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples returned from spaceflight. Ott, Mark Ph.D. (NASA Johnson Space Center) Castro, Victoria B.S. (JES Tech/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center) Performance Goal No.:	No. of Master's Candidates:	0	No. of Bachelor's Degrees:	4
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Castro, Victoria B.S. (KBR/NASA Johnson Space Center) Hamilton, Tanner B.S. (JES Tech/NASA Johnson Space Center) Mena, Christian (JES Tech/NASA Johnson Space Center) Dunbar, Brandon (GeoControls/NASA Johnson Space Center) Grant/Contract No.: Directed Research Performance Goal No.:	Key Personnel Changes/Previous PI:	Dunbar (May 2022 Report) as co-investigators because of their expertise in processing microbiology surface samples		
Performance Goal No.:	COI Name (Institution):	Castro, Victoria B.S. (KBR/NASA Johnson Space Hamilton, Tanner B.S. (JES Tech/NASA Johnson Mena, Christian (JES Tech/NASA Johnson Space	Space Center) Center)	
	Grant/Contract No.:	Directed Research		
Performance Goal Text:	Performance Goal No.:			
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Task Book Report Generated on: 04/26/2024

The objective of the Culture-based Environmental Monitoring of Crop-based Space Food Systems (Veggie Monitoring) investigation is to characterize the microbial community of the Veggie plant production system. This baseline of microorganisms is used to develop microbial requirements for spaceflight-grown produce, and provide inputs to future plant system design. Future work will continue to evaluate the microorganisms that colonize the plant growth system using next generation monitoring technologies to develop future methods for evaluation of produce safety. Of note, the data collected in this study may be used to develop a better understanding of the sources of plant system contamination from the International Space Station (ISS) environment, preflight hardware configuration, water/nutrient supply, plant growth matrix, and the seeds cultivated in the investigation. **Task Description:** Twelve surface sampling sessions are required. For each session, four bacterial and fungal samples are collected from locations within the Veggie facility. The samples are collected during flight, and visual enumeration is performed approximately five days post-sampling. The samples are then returned to Earth for culture-based processing and microbe The Veggie hardware surface samples are analyzed, and the microbial data is compared to samples from ISS operational surfaces and the nominal potable water supply. The MicroHost research plan includes microbial evaluations of food systems and recommendations for spaceflight grown food requirements. Baseline microbial monitoring of the food systems will provide needed data for the development of the microbial requirements. This work can be considered as "highly constrained" since it takes advantage of the operational microbial sampling procedure that is already conducted monthly onboard the ISS, by adding swabbing of the hardware and growing plants and collection of water samples, identical in nature and taken at the same time as the operational sample collections. The highly applied and operational nature of this work makes solicitation or awarding to an external entity not feasible. **Rationale for HRP Directed Research:** The MicroHost and Food PRRs (Path to Risk Reduction) identify this work as starting in FY19, and it is preceded by the ground study "Produce Microbiology" (Principal Investigator R. Wheeler) which is underway at Kennedy Space Center and will be completed by the end of FY18, and a Microbial Risk Assessment study initiated in Early FY19. The findings from the characterization of the Veggie system will feed into the Microbial Risk Assessment effort and into the Microbial Requirements Development task, planned to begin in FY20. Successful production of safe, nutritious food in the challenging conditions in space may contribute to improved food Research Impact/Earth Benefits: production in harsh and remote environments on Earth. Crewmembers have completed 8 bacterial and fungal sampling sessions. There was 1 session in 2019, 4 sessions in 2020, 3 sessions in 2021, Each session collected 4 bacterial and 4 fungal samples from various sample sites on the exterior surface of the Veggie unit using the Surface Sampling Kit (SSK). Samples were returned to Earth to the NASA Johnson Space Center (JSC) Microbiology lab via Soyuz (58, 59, 61, 62, 63) and SpaceX (21, 22, 23) vehicles. Analysis was performed at the JSC Microbiology laboratory to evaluate for microbial growth and perform microbial identification. Microorganisms are identified via methods including microscopy, biochemical analysis, and molecular sequencing of DNA according to JSC Microbiology policy, procedures, and practices. Task Progress: Some samples had growth of microorganisms, while others were devoid of growth. Sites were chosen based on previous results and likelihood of astronaut contact. Access to the interior of the unit is coordinated in between Veggie Unit payloads and as a result, fewer samples have been collected inside of the units. Future collections will continue to target surface sample collection from within the unit to fully comprehend the impact of microbes on system, plant, and crew health. Results continue to suggest a robust microbial community affiliated with the Veggie unit and will be compared to historical ISS data to for a comprehensive evaluation. **Bibliography Type:** Description: (Last Updated:)