Task Book Report Generated on: 04/26/2024

Pl Name: Mosc, Alan Ph.D. Maximal Oxygen Upsaker (VO2max) and Submaximal Fatimates of VO2max Before, During and After Long Duration International Space Station Missions  Program/Dicipline: Human Research  Program/Dicipline: HUMAN RESEARCH  Program/Dicipline: HUMAN RESEARCH  Human Research Program Ethenist: (1) HHC-Munian Health Countermeasures  Human Research Program Risbas: (1) Agrobic-Risba of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity  Space Biology Element: Nooc  Space Biology Element: Nooc  Space Biology Special Category: None  PE Email: International Space State Program Risbas: (1) Agrobic-Risba of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity  Space Biology Special Category: None  PE Email: Part of Program Risbas: (1) Agrobic-Risba of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity  Pe Corganization Type: None  PE Email: Part of Program Risbas: (1) Agrobic-Risba on Program Risbas: (1) Agrobic-Risbas on Program Risbas: (2) Agrobic-Risbas on Risbas on Ris				
Project Title: Maximal Oxygen Uptake (VO2max) and Submaximal Estimates of VO2max Before, During and After Long Duration International Space Station Missions  Division Name: Human Research Program/Discipline: HUMAN RESEARCH Program/Discipline: HUMAN RESEARCH—Biomedical countermeasures  Elemental/Subdiscipline: IUMAN RESEARCH—Biomedical countermeasures  Human Research Program Elements: (1) HHC-Human Health Countermeasures  Human Research Program Elements: (1) HHC-Human Health Countermeasures  Human Research Program Risks: (1) Architectail Resident Reduced Physical Performance Capabilities Due to Reduced Acrobic Capacity  Space Biology Element: None  None  Space Biology Special Category: None  PI Fundi: Annoted Program Risks: (1) Architectail Resident Reduced Physical Performance Capabilities Due to Reduced Acrobic Capacity  Space Biology Special Category: None  PI Fundi: Annoted Program Risks: (1) Architectail Resident Reduced Physical Performance Capabilities Due to Reduced Acrobic Capacity  Space Biology Special Category: None  None  PI Fundi: Program Risks: (1) Architectail Resident Reduced Physical Performance Capabilities Due to Reduced Acrobic Capacity  Photo: Program Risks: (1) Architectail Resident Res	Fiscal Year:	FY 2010	Task Last Updated:	FY 05/21/2010
Division Name:   Human Research   Forgram Division   Human Research   House   Human Research   Human   Health   Countermeasures   Human Research   Human Research   Human Research   Human   Health   Countermeasures   Human Research   Human   Human   Health   Human   Human   Human Research   Human   Human   Human   Human   Human   Human Research   Human   Huma	PI Name:	<u> </u>		
Program/Discipline: IIUMAN RESEARCH Program Discipline- Element/Subdiscipline- Iluman Research Program Elements: (1) HHC-lluman Health Conferencessures  Human Research Program Risks: (1) Aeroide-Risk of Reduced Physical Performance Capabilities Due to Reduced Acrobic Capacity  Space Biology Cross-Element None  Space Biology Cross-Element None  Space Biology Cross-Element None  Space Biology Special Category: None  PI Email:  alse al-moore@mes gov. Pax: PY  Pl Organization Type: NASA CENTER NASA CENTER Phone: 281 483-3749  Pl Organization Type: NASA CENTER Pl Address 1:  Code SK32/KRUG  PI Address 2:  2101 NASA Road I  PI Web Page:  City: Housion State: TX  Zio Code: 77058 Congressional District: 22  Comments:  Project Type: PLGIT Subdiscitation / Funding Source: Directed Research Start Date: 1213/2007 End Date: 12117/2012  No. of Path Deadidates: 1  No. of Path Deadidates: 1  No. of Path Deadidates: 0  No. of Path Candidates: 0  No. of Path Candidates: 0  No. of Path Candidates: 0  No. of Bachelor's Candidates: 0  No. of Rachelor's Londidates: 0  No. of Rachelor's Londidates: 0  No. of Rachelor's Londidates: 0  No. of Rachelor's Candidates: 0  No. of Rachelor's Londidates: 0  No. of Rachelor's Candidates: 0  No. of Rachelor's Candidate	Project Title:		aximal Estimates of VO2max Before, Du	iring and After Long Duration
Program/Discipline- Elements/bindiscipline- Elements/	Division Name:	Human Research		
Element/Subdiscipline: HUMAN RESEARCH F-Biomecheal countermeasures  Joint Agency Name: TechPort: No  Human Research Program Elements: (1) HHC-Human Health Countermeasures  Human Research Program Ribais: (1) Aerobic-Risk of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity  Space Biology Element: None  Space Biology Special Category: None  Pl Email: Joint Agency Frax: FY  Organization Type: None  Pl Email: Joint Agency Frax: FY  Organization Type: NaSA CENTER Phone: 281 483-3749  Organization Name: NASA Johnson Space Center  Pl Address 1: Code SK32/KRUG  Pl Address 2: 2101 NASA Road 1  Pl Web Page:  City: Houston State: TX  Zip Code: 79058 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: Directed Research  Sart Date: 12(13/2007 End Date: 12(17/2012)  No. of Post Does: No. of Master's Candidates: 1  No. of Post Does: No. of Master's Degrees: 0  No. of Post Does: No. of Master's Degrees: 0  No. of Post Does: No. of Master's Degrees: 0  No. of Bachclor's Candidates: 1  No. of Master's Candidates: 0  No. of Bachclor's Candidates: 0  No. of Bachclor's Candidates: 0  Oontact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: Janice's meck/Ginan gov  Flight Program: Sis 19, 20  NOTE: Change in startend dates per JSC-now showing as 12/13/2007-12/17/2012 (previously University Lange in startend dates per JSC-now showing as 12/13/2007-12/17/2012 (previously University Lange in Startend dates per JSC-now showing as 12/13/2007-12/17/2012 (previously University Lange in Startend dates per JSC-provious sitte Evaluation of Maximal Oxygen Uptake (VOZmax) During Long Duration International Space Station Missions (P2009)  NOTE: Startend dates changed per JSC (42/2009)  Key Personnel Changes/Previous PI:  CO Name (Institution): Directed Research	Program/Discipline:	HUMAN RESEARCH		
Human Research Program Elements:  (1) Arcubic-Risk of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity Space Biology Element:  None  None  Space Biology Cross-Element Decipline:  None  None  Pl Carlian Space Biology Special Category: None  Pl Corganization Type:  No None  Pl Carlian Space Biology Special Category: None  Pl Corganization Type:  No None  Pl Carlian Space Stology Special Category: None  Pl Corganization Type:  No None  NASA CENTER  Phone:  No None  Pl Carlian Space Stology Special Category: None  Pl Corganization Type: No Nos A CENTER  No Nos ASA Johnson Space Center  Pl Address 1:  Code SK32/RRUG  Pl Address 2:  Pl Address 2:  Pl Address 2:  City: Houston  Note State:  TX  Zip Code:  Organization Planting Source:  City: Houston  No Space Biology Special Category: No Space State:  Type:  FLIGHT  Solicitation / Funding Source:  Project Type: FLIGHT  Solicitation / Funding Source:  Project Type: FLIGHT  Solicitation / Funding Source:  No of Post Docs: No of Post Docs:  No of Post Docs: No of Post Docs: No of Post Docs: No of Post Docs:  No of Master's Candidates:  SSS  SSS 19, 20  NOTE: State change in state-off dates per JSC - now showing as 12/13/2007-12/17/2012 (previously 10/10/98-10/11/11)—22010  NOTE: State change in State-off dates per JSC - now showing as 12/13/2007-12/17/2012 (previously 10/10/98-10/11/11)—22010  NOTE: State-off dates per JSC : previous title Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (V2009)  NOTE: State-off dates changed per JSC (4/27/2009)  NOTE: State off (Weyle Laboratories) Plats, Steven (Lobnson Space Center) Lees State of (Weyle Laboratories) Plats, Steven (Lobnson Space Center) Lees State of (Weyle Laboratories) Plats, Steven (Lobnson Space Center) Lees State of (Weyle Laboratories) Plats, Steven (Lobnson Space Center) Lees State of Weyle Labor	Program/Discipline Element/Subdiscipline:	HUMAN RESEARCHBiomedical counterme	asures	
Human Research Program Risks: (1) Aerobic-Risk of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity  Space Biology Cross-Element  Discipline:  None  Space Biology Cross-Element  Discipline:  June Address Park Py  Pl Organization Type:  NASA CENTER  NASA CENTER  NASA CENTER  NASA Johnson Space Center  Pl Address 1:  Code SX32/RRIG  Pl Address 2:  2101 NASA Road 1  Pl Web Page:  City:  Houston  State: TX  Zip Code:  Congressional District: 22  Comments:  Project Type:  FLIGHT  Solicitation / Funding Source: Directed Research  No. of Pab Degrees:  No. of Pab Degrees:  No. of Pab Candidates:  No. of Master' Degrees:  No. of Master' S Candidates:  No. of Bachelor's Candidates:  No. of	Joint Agency Name:		TechPort:	No
Space Biology Cross-Element Space Biology Cross-Element Discipline: Space Biology Special Category: None PI Email: alan.d.moore@rass.sov Fax: FY PI Organization Type: NASA CENTER NASA Johnson Space Center PI Address 1: Code SK32/KRUG PI Address 2: 2101 NASA Road 1 PI Web Page: City: Ilouston State: TX Zip Code: 77058 Congressional District: 22 Comments: Project Type: FLIGHT Solicitation/Funding Source: Directed Research No. of Post Does: 0 No. of Pab Date: 12/13/2007 End Date: 12/13/2007 No. of PhD Candidates: 1 No. of Master's Candidates: 0 No. of Master' Degrees: 0 No. of Bachelor's Candidates: 0 No. of Medication of Contact Phone: 281-244-5405 Contact Monitor: Meck, J@n Contact Monitor: No. Of Meck, J@n Contact Contact Monitor: No. OF Signment: Flight Assignment: Flight Assignment: Fight Assignment: Feiveson, Alan (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Center) Lee, Sturt' (Wyle Laborotories) Plate, Steven (Johnson Space Ce	Human Research Program Elements:	(1) <b>HHC</b> :Human Health Countermeasures		
Space Biology Cross-Element Discipline: Space Biology Special Category: None PI Email: alan d.moore@nasa.gov Fax: FY PI Organization Type: NASA CENTER Phone: 281 483-3749 Organization Name: NASA Johnson Space Center PI Address 1: Code SK32/KRUG PI Address 2: 210 NASA Road 1 PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 22 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/13/2007 End Date: 12/17/2012 No. of Post Does: No. of PhD Candidates: No. of Master's Candidates: No. of Master's Candidates: No. of Bachelor's Candidates: No. of Bachelor's Candidates: No. of Bachelor's Candidates: No. of Master's Candidates: Sis 19, 20 Norther Cantact Email: Janice v.meek@nasa.gov Flight Program: SS Flight Assignment: Flight Assignment: Felveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Lee, Stuar	Human Research Program Risks:	(1) Aerobic: Risk of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity		
Discipline: " None   None   Space Biology Special Category: None   None   Pl Email:   alan d moore@instan.acov   Fax: FY	Space Biology Element:	None		
PI Email: aland.moore/@inast.gov Fax: FY PI Organization Type: NASA CENTER Phone: 281 483-3749 Organization Type: NASA CENTER Phone: 281 483-3749 Organization Name: NASA Johnson Space Center PI Address 1: Code SK32/KRUG PI Address 2: 2101 NASA Road 1 PI Web Page: City: Houston State: TX Zip Code: 77058 Congressional District: 22 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/13/2007 End Date: 12/17/2012 No. of Post Does: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 1 No. of Master' Degrees: 0 No. of Master's Candidates: 0 No. of Master's Degrees: 0 No. of Master's Candidates: 0 No. of Master's Degrees: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC Contact Monitor: Meck, J@in Contact Phone: 281-244-5405 Contact Email: janice.v.mcck@nasa.gov Flight Program: ISS ISS 19, 20 NOTE: change in start/end dates per JSC—now showing as 12/13/2007-12/17/2012 (previously 10/10/8-10/1171)-2/2010 NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  Evick, Simmor (Lunopean Astronaut Center) Lee, Struart (Wyle Laboratories) Platts, Sleven ( Johnson Space Center ) Lee, Struart (Wyle Laboratories) Platts, Sleven ( Johnson Space Center ) Levels, Simmor (Lunopean Astronaut Center) Pletets, Simmor (Lunopean Astronaut Center)	Space Biology Cross-Element Discipline:	None		
Pl Organization Type: NASA CENTER Phone: 281 483-3749 Organization Name: NASA Johnson Space Center Pl Address 1: Code SK32/KRUG Pl Address 2: 2101 NASA Road 1 Pl Web Page: City: Bouston State: TX Zip Code: 77058 Congressional District: 22 Comments: Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/13/2007 End Date: 12/17/2012 No. of Post Does: 0 No. of PhD Degrees: 0 No. of PhD Candidates: 1 No. of Master' Degrees: 0 No. of Master's Candidates: 0 No. of Bachelor's Degrees: 0 No. of Bachelor's Candidates: 0 No. of Master' Degrees: 0 No. of Bachelor's Candidates: 0 Meck, J@n Contact Phone: 281-244-5405 Contact Monitor: Meck, J@n Contact Phone: 281-244-5405 Contact Email: janice x meck@nasa.gov Flight Program: ISS ISS 19, 20 NOTE: change in start/end dates per JSC-now showing as 12/13/2007-12/17/2012 (previously 10/10/8-10/11)2/2010 NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  Key Personnel Changes/Previous PI:  COI Name (Institution): McCleary, Frank (Wyle Laboratories) Plates, Steven: (Johnson Space Center) Lec, Stuart (Wyle Laboratories) Plates, Steven: (Johnson Space Center) Lec, Stuart (Wyle Laboratories) Plates, Steven: (Johnson Space Center) Lec, Stuart (Wyle Laboratories) Plates, Steven: (Johnson Space Center) Lec, Stuart (Wyle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Wyle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart (Myle Laboratories) Plates, Steven: (Johnson Space Center) Lect, Stuart	Space Biology Special Category:	None		
Organization Name: NASA Johnson Space Center PI Address 1: Code SK32/KRUG PI Address 2: 2101 NASA Road 1  PI Web Page:  City: Houston State: TX  Zip Code: 77058 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/13/2007 End Date: 12/17/2012  No. of Post Docs: 0 No. of PhD Degrees: 0  No. of PhD Candidates: 1 No. of Master' Degrees: 0  No. of Master's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Master's Candidates: 0 No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC  Contact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: ianice.v.meck@nasa.gov  Flight Program: ISS  ISS 19, 20  NOTE: change in start/end dates per JSC-now showing as 12/13/2007-12/17/2012 (previously 10/10/8-10/11/1)-2/2010  Key Personnel Changes/Previous PI:  Key Personnel Changes/Previous PI:  COI Name (Institution): Private Research  Contract Mayle Laboratories )  McCleary, Frank (Wyle Laboratories)  McCleary, Frank (Wyle Laboratories)  McCleary, Frank (Wyle Laboratories)  Project Type: Simon (European Astromut Centre)  Events, Simon (European Astromut Centre)  Events, Simon (European Astromut Centre)	PI Email:	alan.d.moore@nasa.gov	Fax:	FY
PI Address 1: Code SK32/KRUG  PI Address 2: 2101 NASA Road 1  PI Web Page:  City: Houston State: TX  Zip Code: 77058 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: Directed Research  Start Date: 12/13/2007 End Date: 12/17/2012  No. of Post Docs: 0 No. of PhD Degress: 0  No. of Post Docs: 0 No. of PhD Degress: 0  No. of PhD Candidates: 1 No. of Master's Candidates: 0 No. of Master's Pogrees: 0  No. of Master's Candidates: 0 Monitoring Center: NASA JSC  Contact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: ianice.v.meck@nusa.gov  Flight Program: ISS  ISS 19, 20 NOTE: change in start/end dates per JSC-now showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)-2/2010  NOTE: Title change per JSC: previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution): Pieceted Research  Directed Research	PI Organization Type:	NASA CENTER	Phone:	281 483-3749
PI Address 2: 2101 NASA Road 1 PI Web Page:  City: Houston State: TX  Zip Code: 77058 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: Directed Research Start Date: 12/13/2007 End Date: 12/17/2012  No. of Post Docs: 0 No. of PhD Degrees: 0  No. of Post Docs: 0 No. of PhD Degrees: 0  No. of Master's Candidates: 1 No. of Master' Degrees: 0  No. of Master's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC  Contact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: janice.v.meck@nasa.gov  Flight Program: ISS  ISS 19, 20  NOTE: change in start/end dates per JSC—now showing as 12/13/2007-12/17/2012 (previously 101/108-10/111)-2/2010  NOTE: Title change per JSC; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution): Every Sturn (Wyle Laboratories) McCleary, Frank (Wyle Laboratories) Plats, Steven (Johnson Space Center) Everts, Simon (European Astronaut Center)  Everts, Simon (European Astronaut Center)  Everts, Simon (European Astronaut Center)	Organization Name:	NASA Johnson Space Center		
PI Web Page:  City: Houston State: TX  Zip Code: 77058 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: Directed Research  Start Date: 12/13/2007 End Date: 12/17/2012  No. of Post Docs: 0 No. of PhD Degrees: 0  No. of Post Docs: 0 No. of Master' Degrees: 0  No. of Master's Candidates: 1 No. of Master' Degrees: 0  No. of Master's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Sachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor	PI Address 1:	Code SK32/KRUG		
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Zip Code: 77058 Congressional District: 22  Comments:  Project Type: FLIGHT Solicitation / Funding Source: Directed Research  Start Date: 12/13/2007 End Date: 12/17/2012  No. of Post Docs: 0 No. of PhD Degrees: 0  No. of PhD Candidates: 1 No. of Master' Degrees: 0  No. of Master's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Master's Candidates: 0 Monitoring Center: NASA JSC  Contact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: janice.v.meck@nasa.gov  Flight Program: ISS  ISS 19, 20 NOTE: Start/end dates per JSC-now showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)-2/2010  NOTE: Title change per JSC: previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution): Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) McCleary, Frank (Wyle Laboratories) Plats, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Evetts, Simon (European Astronaut Centre)  Evetts, Simon (European Astronaut Centre)	PI Web Page:			
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Project Type: FLIGHT Solicitation / Funding Source: Directed Research  Start Date: 12/13/2007 End Date: 12/17/2012  No. of Post Docs: 0 No. of PhD Degrees: 0  No. of Post Docs: 1 No. of Master' Degrees: 0  No. of Master's Candidates: 0 No. of Master' Degrees: 0  No. of Bachelor's Candidates: 0 No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates: 0 Monitoring Center: NASA JSC  Contact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: ianice.v.meck@nasa.gov  Flight Program: ISS  ISS 19, 20  NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution): Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) McCleary, Frank (Wyle Laboratories) McCleary, Frank (Wyle Laboratories) Events, Simon (European Astronaut Centre) Events, Simon (European Astronaut Centre) Events, Simon (European Astronaut Centre)	Zip Code:	77058	Congressional District:	22
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No. of PhD Degrees: 0  No. of PhD Candidates: 1 No. of Master' Degrees: 0  No. of Master's Candidates: 0 No. of Master's Degrees: 0  No. of Master's Candidates: 0 Monitoring Center: NASA JSC  Contact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: janice.v.meck@nasa.gov  Flight Program: ISS  ISS 19, 20  NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010  NOTE: Title change per JSC ; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution): Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Grant/Contract No.: Directed Research	Project Type:	FLIGHT	Solicitation / Funding Source:	Directed Research
No. of PhD Candidates:  1	Start Date:	12/13/2007	End Date:	12/17/2012
No. of Master's Candidates:  No. of Bachelor's Degrees: 0  No. of Bachelor's Candidates:  No. of Bachelor's Degrees: 0  Monitoring Center: NASA JSC  Contact Monitor:  Meck, J@n  Contact Phone: 281-244-5405  Contact Email:  ISS  ISS  ISS 19, 20  NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010  NOTE: Title change per JSC; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution):  Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Grant/Contract No.:  Directed Research	No. of Post Docs:	0	No. of PhD Degrees:	0
No. of Bachelor's Candidates:  O Monitoring Center: NASA JSC  Contact Monitor: Meck, J@n Contact Phone: 281-244-5405  Contact Email: janice.v.meck@nasa.gov  Flight Program: ISS  ISS 19, 20 NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010  NOTE: Title change per JSC; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution): Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Grant/Contract No.: Directed Research	No. of PhD Candidates:	1	No. of Master' Degrees:	0
Contact Monitor:  Meck, J@n Contact Email:  janice.v.meck@nasa.gov  Flight Program:  ISS  ISS 19, 20 NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010  NOTE: Title change per JSC; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution):  Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) Platts, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Grant/Contract No.:  Directed Research	No. of Master's Candidates:	0	No. of Bachelor's Degrees:	0
Contact Email: janice.v.meck@nasa.gov  Flight Program: ISS  ISS 19, 20 NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010  NOTE: Title change per JSC; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)  NOTE: Start/end dates changed per JSC (4/27/2009)  Key Personnel Changes/Previous PI:  COI Name (Institution): Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories) McCleary, Frank (Wyle Laboratories) Platts, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Grant/Contract No.: Directed Research	No. of Bachelor's Candidates:	0	Monitoring Center:	NASA JSC
ISS   19, 20   NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010   NOTE: Title change per JSC; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)   NOTE: Start/end dates changed per JSC (4/27/2009)	Contact Monitor:	Meck, J@n	Contact Phone:	281-244-5405
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Feiveson, Alan (Johnson Space Center) Lee, Stuart (Wyle Laboratories)  McCleary, Frank (Wyle Laboratories) Platts, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Grant/Contract No.: Directed Research	Flight Assignment:	NOTE: change in start/end dates per JSCnow showing as 12/13/2007-12/17/2012 (previously 10/1/08-10/1/11)2/2010  NOTE: Title change per JSC; previous title: Evaluation of Maximal Oxygen Uptake (VO2max) During Long Duration International Space Station Missions (9/2009)		
Lee, Stuart (Wyle Laboratories)  McCleary, Frank (Wyle Laboratories) Platts, Steven (Johnson Space Center) Evetts, Simon (European Astronaut Centre)  Grant/Contract No.: Directed Research	Key Personnel Changes/Previous PI:			
	COI Name (Institution):	Lee, Stuart (Wyle Laboratories) McCleary, Frank (Wyle Laboratories) Platts, Steven (Johnson Space Center)		
Performance Goal No.:	Grant/Contract No.:	Directed Research		
	Performance Goal No.:			

Task Book Report Generated on: 04/26/2024

## **Performance Goal Text:** Maximum oxygen uptake (VO2max, sometimes referred to as VO2peak)\* is the standard measure of aerobic capacity and is directly related to the physical working capacity of an individual. Reduction in VO2max is commonly reported as a result of ground-based analogues of long duration spaceflight. Due to early concerns related to the safety of performing maximal exercise testing during or shortly after long duration flight, and until recently lack of a device to measure exercise VO2 on International Space Station (ISS), VO2max has never been directly measured over the course of or following long duration space flight. For operational purposes, for example, to assess crew member readiness to perform Extra Vehicular Activities during long missions, the heart rate (HR) response to submaximal exercise testing have been used to infer changes in aerobic capacity. Recent work by the investigators of this study has suggested that the validity of using the HR response to track changes in aerobic capacity during ISS flight is suspect, as a fundamental assumption underlying this technique (equivalence of preflight and in-flight submaximal VO2 per set exercise work rate), was demonstrated as questionable. The specific aims of this research are: **Task Description:** 1. To directly measure VO2max during and following long duration ISS missions. 2. To examine the current method of estimating VO2max change during and following ISS missions, and establish if it can used to validly track actual measures of VO2max. 3. To determine if the addition of a non-invasive cardiac output measures during exercise will improve the accuracy of estimating changes in VO2max during and following ISS missions. \*- Exercise Physiology investigators will often refer to the maximum oxygen uptake value assessed in this study as "VO2peak" as repeated exercise tests are not used to verify the subject is truly at physiological maximum (not practical or even possible for certain time points of the study). For the purposes of this study and report, the investigators use the more familiar term "VO2max." This research is directed because it contains highly constrained research, which requires focused and constrained data Rationale for HRP Directed Research: gathering and analysis that is more appropriately obtained through a non-competitive proposal. The application of the research findings of this investigation will be most relevant to space flight operations, addressing the questions of whether or not maximum testing will be required to accurately assess aerobic capacity during the course of long-duration missions and determining the time-course of VO2max changes during and following long-duration space flight. However, the findings of this research may also be applied to the clinical realm on Earth by Research Impact/Earth Benefits: quantifying the time-course of recovery of VO2max after long-term deconditioning. This would aide in the determination of how long rehabilitation would be required after extended periods of bed rest confinement or other severe deconditioning. Progress on the VO2max study has been excellent in its first year of conduct. The VO2max study serves as an exemplary model of an international collaborative effort in support of research on the ISS. The device used to measure VO2 and cardiac output, the European Space Agency (ESA) provided Portable Pulmonary Function System (PPFS; Damec, Odense, DK) was successfully validated during ground trials. The PPFS was launched to ISS on board the Japan Aerospace Agency (JAXA) H-II transfer vehicle in September, 2009. The first 4 ESA and NASA astronaut volunteers (of 12 planned) have completed the experiment. The fifth subject is currently on board ISS, with two additional participating astronauts due to launch in June, 2010. Minor problems have been encountered with equipment set-up and calibration prior to some of the in-flight test sessions, which lead to those sessions running slightly longer than planned, but troubleshooting by the crew members in coordination with the NASA and ESA ground support teams have been effective in resolving the issues and good data were successfully obtained. In addition, due to the arrival of the PPFS in the middle of the first expedition that the experiment was manifested on, the response of VO2max early in flight was not Task Progress: measured for the first three subjects. It is too early in the study to draw any conclusions from the findings to date. However, some preliminary observations are offered here: 1. The VO2max responses of the subjects during flight have been variable, with 2 subjects demonstrating declines >20%, 1 subject having a more modest decline (~10%) and one subject remaining unchanged from preflight levels. 2. There are differences observed between the estimates of aerobic capacity derived by submaximal test data (calculated using either HR and work rate data, or HR and submaximal VO2 data) and measured VO2max. The magnitude of this difference has been inconsistent when compared across subjects. **Bibliography Type:** Description: (Last Updated: 03/03/2016) Moore AD, Evetts SN, Feiveson AH, Lee SMC, McCleary FA, Platts SH. "Maximum oxygen uptake during and after long-duration space flight." Presented at the 2010 NASA Human Research Program Investigators' Workshop, Houston, Abstracts for Journals and TX, February 3-5, 2010. **Proceedings** 2010 NASA Human Research Program Investigators' Workshop, 2010. Published online and available at: http://www.dsls.usra.edu/meetings/hrp2010/pdf/Muscle/1148AMoore.pdf, Feb-2010 Moore AD, Lee SMC, Stenger MB, Platts SH. "Cardiovascular exercise in the U.S. space program: Past, present and **Articles in Peer-reviewed Journals** future." Acta Astronautica. 2010 Apr-May;66(7-8):974-88. http://dx.doi.org/10.1016/j.actaastro.2009.10.009, Apr-2010