Wednesday, February 12, 2014
COUNTERMEASURES AND FUNCTIONAL TESTING IN BED REST (CFT70)
10:30 a.m. Expo Hall B

Chairs: Lori Ploutz-Snyder
Ronita Cromwell

10:30 a.m. Cromwell R. L.
Countermeasures and Functional Testing in Head-Down Tilt Bed Rest (CFT 70) [#3108]
This talk provides an introduction to the studies integrated into the current NASA bed rest campaign. It serves as the background for the CFT 70 session.

10:35 a.m. Ploutz-Snyder L. L. Downs M. Goetchius E. Buxton R. Scott J.
Integrated Resistance and Aerobic Training During 70 Days of Bed Rest [#3156]
Integrated resistance and aerobic exercise training shows promise as an effective exercise countermeasure particularly for the maintenance of VO2max and some lower body muscle strength measurements.

Body Unloading Associated with Space Flight and Bed-Rest Impacts Functional Performance [#3172]
We study body unloading resulting from bed-rest impacts functional performance particularly for tasks with a greater requirement for postural equilibrium control. These results indicate that body support unloading experienced during space flight contributes to postflight changes in functional performance.

Testosterone Supplementation as a Countermeasure Against Musculoskeletal Losses During Space Exploration: CFT70 Preliminary Results [#3157]
We present preliminary results from the CFT70 bed rest study.

11:30 a.m. Caldwell B. J. Halpern B. P. Binsted K. A. Hunter J. B.
Cephalad Fluid Shift Induced Nasal Tissue Swelling During 70-Day 6° Head Down Tilt in Exerciser and Control Subjects [#3309]
Bed-rested subjects experience marked swelling of the nasal tissues, with non-exercisers showing more swelling than exercisers. Nasal tissue swelling and intraocular pressure appear to be correlated in these bed rested subjects.

11:40 a.m. Miller C. A. Schmer-Galunder S. Wu P. Ott T. Rye J. M.
Non-Intrusive Psycho-Social State Detection for Attitudes with Exercise [#3315]
We report on using automated text analysis techniques on journals generated during a ~100 day bed rest study to assess attitudes about exercise and emotional variations between exercisers and non-exercisers. Survey responses about attitudes and subjective physical state will also be presented.

The Effects of Long Duration Head Down Tilt Bed Rest on Neurocognitive Performance: The Effects of Exercise Interventions [#3161]
In this presentation, I will discuss an ongoing study evaluating the effects of long duration bed rest on brain and behavior, specifically focusing on the potential mediating effects of exercise.

12:00 p.m. LUNCH