Thursday, February 13, 2014
VISUAL IMPAIRMENT AND INTRACRANIAL PRESSURE II (GROUND)
4:00 p.m.   Expo Hall B

Chairs:          Christian Otto
                 Graham Scott

4:00 p.m.        Macias B. R.  Grande Gutierrez N.  Hargens A. R.  Liu J. H. K.
                 Lower Body Negative Pressure Counters Headward Fluid Shifts in the Brain and Eye [#3123]
                 We hypothesized that lower body negative pressure (LBNP) would counteract head down, body-tilt (HDT), induced elevations in intraocular pressure (IOP) and intracranial pressure (ICP). Short duration exposures to HDT increase IOP and ICP significantly and further, LBNP counteracts these elevations.

4:15 p.m.        Lawley J. S.  Williams M. A.  Zhang R.  Whitworth L. A.  Levine B. D.
                 Microgravity Induced Visual Alterations and Intracranial Pressure [#3293]
                 Some astronauts are at risk for visual changes that may be due to elevations in intracranial pressure. The primary objective is to make the first direct, invasive measurements of intracranial pressure, cerebral hemodynamics, and structure of the visual apparatus during 24-hours of head-down tilt.

4:30 p.m.        Bershad E. M.  Malkin-Gosdin L.  Calvillo E.  Maldonado N.  Damani R.  Anand A.
                 Evaluation of the Vittamed two Depth Transcranial Doppler for Non-Invasive Intracranial Pressure Monitoring in the Astronauts [#3020]
                 There is an urgent need to develop a non-invasive modality for accurate measurement of intracranial pressure in the astronauts. We report the phase 1 results of our ongoing evaluation the Vittamed Two Depth Transcranial Doppler for intracranial pressure assessment.

4:45 p.m.        Ebert D.  Gianoli G.  Soileau J.  Ploutz-Snyder R.  Danielson R.
                 Analysis of Clinical Records as a Means to Validate Noninvasive Assessment of Intracranial Pressure Using the Cerebral and Cochlear Fluid Pressure (CCFP) Analyzer [#3287]
                 The CCFP analyzer provides a potential option for monitoring ICP changes both terrestrially and inflight. This study is expected to yield essential information about the CCFP method.

5:00 p.m.        Dentinger A. M.  Mills D. M.  Obi A.
                 Integration of a Volumetric Ophthalmic Imaging Probe with the Ultrasound 2 Platform [#3258]
                 The development of a prototype mechanical 3-D ultrasound probe and standalone control hardware to enable volumetric imaging of the full ocular anatomy with the Ultrasound 2 ultrasound system is described and initial in vitro images and volumes of an ultrasound imaging phantom will be shown.