

Name of research institute or organization:

**University Hospital Lausanne, Department of Internal Medicine
CSEM Neuchâtel**

Title of project:

Long-Term Medical Survey System (LTMS-3)

Project leader and team:

Prof. Claudio SARTORI
Prof Urs SCHERRER

Project description:

LTMS3 (Long-Term Medical Survey) system is a new device developed by the CSEM of Neuchâtel and the European Space Agency for long-term, simultaneous, noninvasive measurement and recording of blood pressure, ECG, respiratory rate, body temperature, and hemoglobin oxygen saturation.

The scope of this investigation was to validate in the field conditions the accuracy of LTMS-3 system regarding its performances and its comfort in comparison with different reference devices already commercialized.

6 volunteers and 4 investigators spent 2 nights at the Research Station to perform this validation during rest, a standardized exercise session and a 4-hours daily activity section.

The results demonstrated that the LTMS-3 system performed very well compared to the reference devices and was ready to be sent to the Concordia Research Center to be employed in several clinical research projects.

Key words:

Hypoxia, High Altitude, Telemedicine, Acclimatization

Collaborating partners/networks:

European Space Agency

Scientific publications and public outreach 2010:

Theses

Long-Term Medical Survey System: validation scientifique d'un appareil de mesure de paramètres physiologiques destiné aux futurs vols habités de l'Agence Spatiale Européenne, by Tim Fontolliet, Institut des Sciences du Mouvement et de la Médecine du Sport, Université de Lausanne et Université de Genève, 2011.

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