



Human Physiology Workshop

10th of December 2016

Venue: DLR
:envihab
Forum
Planitzweg
51147 Cologne
Germany



Human Physiology Workshop

We are pleased to welcome you to the 1st German Human Physiology Workshop 2016. The workshop shall provide a forum for Researchers at all stages (student to professor) to meet and discuss their latest findings in human physiological research and space research and give room for mutual exchange and benefit between space and non-space scientists.

Organizers

Jörn Rittweger (DLR)
Katrin Stang (DLR)
Tine Becker (DLR)
Friederike Wütscher (DLR)

Administrative secretariat

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Scientific Committee

Jörn Rittweger, German Aerospace Center (DLR), Institute of Aerospace Medicine, Space Physiology, Cologne, Germany

Wilhelm Bloch, German Sport University, Cologne, Germany

Markus Braun, German Aerospace Center (DLR), Space Administration, Microgravity Research and Life Sciences, Bonn, Germany

Alexander Choukèr, University of Munich, Klinikum Großhadern, Department of Anaesthesiology, Munich, Germany

Nandu Goswami, Medical University of Graz, Institute of Physiology, Gravitational Physiology and Medicine, Graz, Austria

David Green, CHAPS, King's College London, UK

Markus Gruber, University of Constance, Germany

Hanns-Christian Gunga, Center for Space Medicine and Extreme Environments, Institute of Physiology, Charité Medical University, Berlin, Germany

Andy Jones, Sport and Health Sciences, NIHR Exeter Clinical Research Facility, University of Exeter, Exeter, UK

Jens Jordan, German Aerospace Center (DLR), Institute of Aerospace Medicine, Cologne, Germany

Sergey Ponomarev, Institute of Biomedical Problems IMBP, Moscow

Stefan Schneider, German Sport University, Institute of Movement and Neurosciences, Cologne, Germany

Alexander Stahn, Perelman School of Medicine, Department of Psychiatry, University of Pennsylvania, USA

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Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Human Physiology Workshop

Draft Program

Saturday, December 10, 2016

07:45 **Registration**

08:10 **Welcome (DLR)**

Session 1:

Chair: Andy Jones

08:15 **Cvirn, G.:** Orthostatic Hypercoagulability in Patients Recovered from Ischemic Stroke

08:30 **Chobanyan-Jürgens, K.:** Cardiac pacemaker channel (HCN4) inhibition and atrial arrhythmogenesis following acute relief of cardiac sympathetic activation

08:45 **Freyler, K.:** Effects of weightlessness and altered gravities on neuromuscular correlates of human movement

09:00 **Drescher, U.:** Analysis of Cardiorespiratory Kinetics – Practical Applications for the Assessment of Circulatory and Muscular Dynamics

09:15 **Schoenrock, B.:** Stiffness and tone of skeletal muscles in a ground-based spaceflight analogue (bed rest) with reactive jump intervention (MYOTON Study)

09:30 **Kühn, S.:** Magnetic Resonance Investigation of the Human Brain after 6 Days of Acclimatization to 4554 m - Preliminary Results of the EFA study

09:45 **Turner, R.:** New results and considerations for enhanced delineation of the physiological impact of high altitude stressors

09:45–10:30 Coffee break

Session 2:

Chair: Jörn Rittweger

10:30 **Hoffmann, U.:** Pulmonary gas exchange as an estimate of lung perfusion during changing gravity

10:45 **Nordine, M.:** Hemodynamic and tissue oxygenation activity during rapid sequence environmental changes.

11:00 **Ireland, A.:** Differential adaptation of the tibia and fibula to exercise and disuse cannot be explained by bone geometry or habitual loading

11:15 **Heusser, K.:** Hemodynamics and muscle sympathetic nerve activity in patients with end stage heart failure before and after left ventricular assist device implantation

11:30 **Beblo-Vranesic, K.:** The microbial influence on human physiology

- 11:45 **Weber, R.:** Morphological and functional analysis of skeletal muscle in response to long-term bed rest without and with reactive jumps as countermeasure (RSL-Study 2015-2016)
- 12:00 **Werner, A.:** Special ECG detection and systematic analysis of the development of arrhythmias during high positive G acceleration in the long-arm human centrifuge
- 12:15 **Pun, M.:** High altitude medicine research from Alps: Design

12:15–13:00 Lunch break

Session 3:

Chair: Alexander Choukèr

- 13:00 **Attias, J.:** The cardiorespiratory effect of axial re-loading during unloaded treadmill exercise
- 13:15 **Gunga, H.-C.:** Core Body Temperatures in Astronauts on the International Space Station
- 13:30 **Thompson, C.:** Dietary nitrate supplementation enhances exercise performance and some physiological adaptation to sprint interval training
- 13:45 **van Walleghe, M.:** Evaluation of the impact of different gravity conditions and stress hormones on the cell-mediated immune response using the in vitro DTH assay
- 14:00 **Masatli, Z.:** Cardiovascular adaptations during +Gz interval training (GIT)
- 14:15 **Abeln, V.:** First impressions of psychophysiological changes during 30-days of isolation in the Human Exploration Research Analog (HERA)
- 14:30 **Stroetges, J.:** Short-arm centrifugation influences the orthostatic stress hormones galanin and adrenomedullin
- 14:45 **Piasecki, M.:** Neuromuscular junction transmission variability in the vastus lateralis of master athletes compared with healthy young and older men

14:45–15:30 Coffee break

Session 4:

Chair: Jochen Zange

- 15:30 **Piotrowski, T.:** Oxygen uptake during exercise on a centrifuge
- 15:45 **Jones, E.J.:** Spring-loaded body mass equivalent horizontal reactive jumps may be comparable to those performed vertically in 1Gz
- 16:00 **Koschate, J.:** The influence of 60 days of bed rest on heart rate and oxygen uptake kinetics
- 16:15 **Bury, N.:** Can spatial orientation be modified by training?

16:15–17:00 Musical break & awards

17:00 Adjourn

Travel Instructions (see also: <http://www.dlr.de/envihab/en/desktopdefault.aspx/tabid-9657/>)
 DLR Cologne, Planitzweg, 51147 Cologne, Tel.: +49 2203 601-0

The DLR Cologne site is located south-east of Cologne, close to Cologne-Bonn airport.

How to reach us:

Arrival by train

The local trains ("S-Bahn") S 12 or S 13 leave from Koeln Hauptbahnhof (Hbf), Siegburg and Troisdorf. The local train S 13 also leaves from Koeln Bonn Airport. Daytime departures take place every 20 min for both trains so that there is a train every 10 minutes. Get off at the railway station "Porz-Wahn" and continue from there by KVB bus number 162, direction "DLR". See instructions "By bus" below.

Arrival by bus

Take the KVB bus number 162 from Porz-Wahn. The bus sign will show "DLR". Please be sure that you take the one saying "DLR" as there are different routes for bus number 162. Exit at the last stop at the main gate of the German Aerospace Center DLR Koeln.

Arrival by taxi

At Koeln Hauptbahnhof (central station) take a taxi to "Porz-Wahnheide, DLR". Taxi stands are located on both exits of the station. Taxi call for all locations in Cologne: Tel. +49/221/19410. Tell the driver to take you to "Porz-Wahnheide, DLR". The price will depend on daytime and traffic (normally it should not exceed 35 Euros).

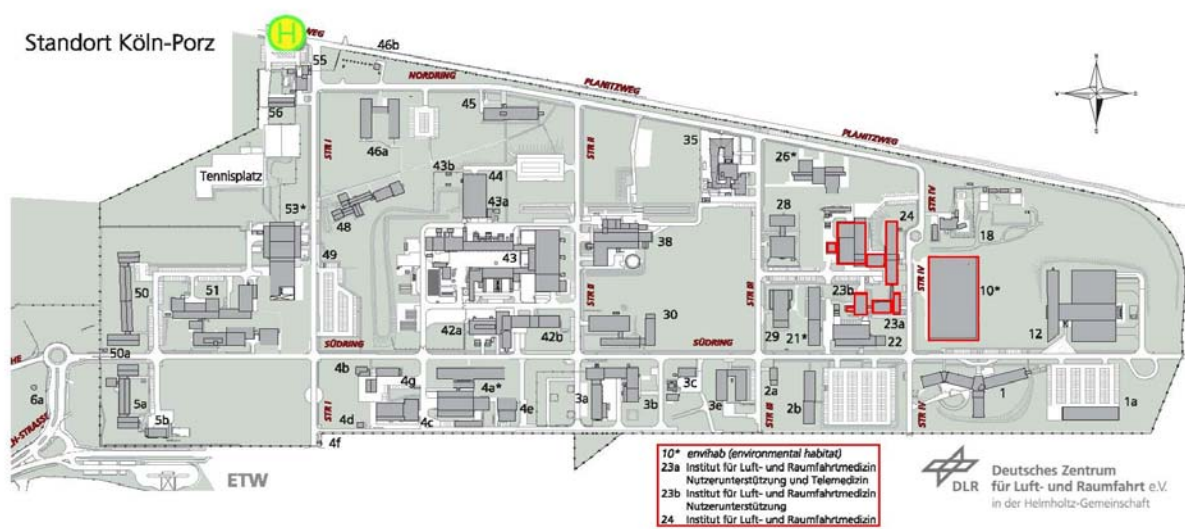
Arrival by car

Arriving from Frankfurt (A3) or from Bonn (A59): follow the indications to Koeln Bonn Airport (A59) until the exit Porz-Wahn/Wahnheide. At the exit take the right (Porz-Wahnheide) and follow the DLR sign.
 Arriving from Cologne (A59) or Oberhausen/Duesseldorf (A3): follow the indications to Koeln/Bonn Airport (A59), then take the exit Porz-Wahn/Wahnheide. At the exit drive left (Porz-Wahnheide) and follow the DLR sign.

Note: If you use a navigation system, enter your destination as "Planitzweg" instead of Linder Höhe.

Arrival by air

From Koeln Bonn Airport : Either take a taxi in front of the terminal to "DLR in Porz-Wahnheide". Or take the local train S 13 direction "Troisdorf" from the railway station "Koeln/Bonn Flughafen" (in the basement of the airport) to the station "Porz-Wahn" which is your first stop after boarding the train. Continue from there by KVB bus number 162, direction "DLR". See also above instructions "By train" and "By bus".



Accommodation (example):

<p>Jaumanns Hotel zur Quelle Heidestraße 246 51147 Köln - Wahnheide Telefon: +49 (0) 22 03 96 47-0 Telefax: +49 (0) 22 03 96 47-317 E-Mail: info@hotelzurquelle.de Internet: www.hotelzurquelle.de</p>	<p>ART Hotel Köln Heidestr. 225 51147 Köln - Wahnheide Telefon: +49 (0) 22 03 - 96 64 10 Telefax +49 (02203) 96 64 19 E-Mail: info@arthotel-koeln.de Internet: www.arthotel-koeln.de</p>
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