4th International Symposium for Hypoxia in Medical Research, Training and Rehabilitation

Date: January 29th – 30th, 2010
Location: Department of Sports Science, Fürstenweg 185, Innsbruck

Topics:

**Friday, January 29th**
- Hypoxia in Sports:
  - Sea level competitions
  - High altitude competitions
  - Pre-acclimatization
  - Specific stimuli
  - Regeneration

**Saturday, January 30th**
- Hypoxia in Medicine:
  - Mechanisms of therapy
  - Cellular and Molecular biological research
  - Genetics
  - Cardiovascular diseases
  - Respiratory diseases
  - Metabolic diseases
  - Neurological diseases
  - Provocation Tests
Program

Friday, January 29th, 2010

“Landmark Lectures and Hypoxia in Sports”

09.00 – 11.00  Registration

11.00 – 11.50  Welcome with early finger food lunch (Registration continued)

11.50 – 12.00  Opening words by vice chancellor Tilmann Märk

12.00 – 13.30  Landmark Lectures

  Chair: Niki Netzer, Wolfgang Domej

  Hypoxia Research – Implications in future pharmaceutical developments
  Kingman Strohl (Cleveland)

  Evolution of High-Altitude Adaptation in Humans – an overview
  Cynthia Beall (Cleveland)

  Hypoxia and Narcolepsy
  Fang Han (Beijing)

13.30 – 15.30  Session 1: Hypoxia in Sports

  Chair: Carsten Lundby, Markus Tannheimer

  Neurobics; Oxygen, the Brain and Exercise Performance
  Damian Bailey (Cardiff)

  Limiting factors for VO₂max in hypoxia
  José Calbet (Las Palmas)

  Short communications (5x5)
  Breathing Patterns during Exercise of Progressive Short Term Acclimatization to High Altitude
  Markus Flatz (Innsbruck)

  Cardiorespiratory responses during incremental ramp test in mild acute hypoxia
  Livio Zerbini (Rovereto)

  The impact of chronic hypobaric hypoxia on metabolic cost of submaximal work at sea level
  Sylwester Kujach (Gdańsk)

  Minimal standards for Hypoxia Rooms for training, research, and fire protection
  Thomas Küpper (Aachen)

  Lactic anaerobic capacity enhancement by explosive-strength endurance training under simulated altitude conditions
  Jesus Álvarez (Barcelona)

15.30 – 16.00  Coffee break

16.00 – 17.00  Session 2: Hypoxia in Sports

  Chair: Erich Gnaiger, Robert Koch

  Mitochondrial Function in Hypoxia
  Susanne Arnold (Aachen)
Recombinant Epo and Performance in Hypoxia
Paul Robach (Chamonix)

17.00 – 18.00 Poster session + pre – dinner lecture
“Why we need a European Hypoxia Research Society”
Carlo Bruschi (Trieste)
Heimo Mairbäurl (Heidelberg)
Nikolaus Netzer (Bad Aibling)

18.30 - Adventure evening + Dinner

Saturday, January 30th, 2010
“Hypoxia in Medicine”

09.00 – 10.45 Session 3: Hypoxia in Medicine
Chair: Peter Bärtsch, Christian Guilleminault
Cellular Research in Hypoxia
Heimo Mairbäurl (Heidelberg)
The widespread impact of Erythropoietin in hypoxia
Max Gassmann (Zürich)

Short communications (5x5)
Severe acute hypoxia blunts Thr^{172}-AMPKα but not Ser^{221}-ACCβ phosphorylation in response to a single bout of sprint exercise David Morales-Alamo (Las Palmas)
β-N-oxalyl-L-α,β-diamainopropioninc acid (L-ODAP), a potential agent in high altitude adaptation Jammulamadaka Nalini (Hyderabad)
Interval hypoxic-hyperoxic training: modulation the metabolic syndrome Individual components (pilot study) Oleg Glazachev (Moscow)

10.45 – 11.15 Coffee break

11.15 – 12.00 Special Issue: “The Hypoxic Workplace”
Introduction and Moderation
Martin Burtscher (Innsbruck)
Flights to Moon and Mars: Challenges for Medicine
Rupert Gerzer (Cologne)

12.00 – 14.00 Lunch break

12.00 – 12.20 Tour through the facilities of the Department of Sport Science optional

12.35 – 13.25 Meeting of potential members of a “European Hypoxia Research Society” optional
14.00 – 16.30  **Session 4: Hypoxia in Medicine**

*Chair: Thomas Küpper, Michael Schocke*

The hypoxic environment, a natural research laboratory for the study of cardiovascular function

*Urs Scherrer (Lausanne)*

Interval Hypoxia in COPD

*Luciano Bernardi (Pavia)*

Interval Hypoxia in CAD

*Igor Ehrenbourg (Moscow)*

**Short communications (5x5)**

The impact of chronic hypobaric hypoxia on cognitive functions

*Robert Szymczak (Gdańsk)*

Training in normobaric hypoxia and its effect on acute mountain sickness

*Kai Schommer (Heidelberg)*

Sleeping in moderate hypoxia at home for prevention of acute mountain sickness (AMS)

*Christoph Dehnert (Heidelberg)*

Subjective quality of sleep during low and high altitude trekking

*Robert Szymczak (Gdańsk)*

16.30 – **Good Bye Note and individual departure**

**Posters:**

- Effects of acute hypoxia on motor balance *Vera Innerebner (Innsbruck)*
- A program of force training at simulated altitude does not influence postural balance *Jesus Àlvarez (Barcelona)*
- Blood pressure behaviour of normotensives and hypertensives during recreational skimountaineering *Patricia Schanne (Innsbruck)*
- A program of intermittent hypobaric hypoxia exposure is efficient for the enhancement of apnea time in hockey-sub players *Ginés Viscor (Barcelona)*
- Hypoxia restores exercise-induced NOS-phosphorylation at Ser1177 in erythrocytes of non-insulin-dependent diabetic men *Sebastian Gehlert (Cologne)*
- Can intermittent hypobaric hypoxia improve iron-refractory iron deficiency anemia in two women Olympic athletes? *Ruben Martínez (Barcelona)*
- Hematopoietic stem cells are mobilized after acute hypobaric hypoxia exposure and muscle electrostimulation *Ginés Viscor (Barcelona)*
- Heart rate and blood pressure values during a 3-week intermittent hypoxia breathing program in patients with mild COPD *Martin Faulhaber (Innsbruck)*
- Development of acute mountain sickness during an eight hour exposure to 5500m normobaric hypoxia *Maria Wille (Innsbruck)*
- Changes in cerebral oxygenation during an active and passive eight hour exposure to 5500m normobaric hypoxia *Klemens Mairer (Innsbruck)*
- Investigation of muscle metabolism of the M. quadriceps via 31P MRS and high resolution respirometry in connection with 12 weeks of strength and endurance training in normoxia and hypoxia *Dominik Pesta (Innsbruck)*
**Abstracts and early Registration Deadline:** November, 30th, 2009

**Website:** [www.uibk.ac.at/isw/hypoxia](http://www.uibk.ac.at/isw/hypoxia); [www.hypoxiaeurope.org](http://www.hypoxiaeurope.org)

**More information:** regarding registration and organization [Maria.Wille@student.uibk.ac.at](mailto:Maria.Wille@student.uibk.ac.at)

regarding abstract submission [Klemens.Mairer@student.uibk.ac.at](mailto:Klemens.Mairer@student.uibk.ac.at)