

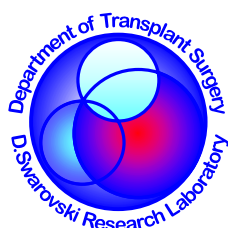
OROBOROS

www.Oroboros.at

High-Resolution Respirometry

Introductory Course on High-Resolution Respirometry – *Oxygraph-2k*

Programme



***Oxygraph* Course, 12. – 15. June 2002**

Department of Transplant Surgery, D. Swarovski
Research Laboratory

<http://tx-research.uibk.ac.at/>

University Hospital, Innsbruck, Austria

Wednesday, 12. June (16:30): Welcome reception, Hypobank Tyrol
ScienceWeek@Austria Univ.-Klinik, Innrain 47a, Innsbruck

Thursday, 13 June: INTRODUCTION TO HIGH-RESOLUTION RESPIROMETRY (Erich Gnaiger, Innsbruck)

Seminarraum 2, UG1, Chirurgie (main building, University Hospital)

<http://www.uibk.ac.at/c/c5/c520/>

10:00-10:45

Introduction: Mitochondrial and cellular respiratory physiology – new challenges for high instrumental performance

10:45

Coffee

11:15-12:45

High-resolution respirometry – what makes the difference? Presentation of the new OROBOROS *Oxygraph-2k*

- Low oxygen and measurement of cellular oxygen consumption – pushing the limits of detection.
- Optimum system design - the OROBOROS *Oxygraph*.
- On-line recording of oxygen concentration and flux; linear slope versus oxygen flux as a function of time.
- The concept of high-resolution calibrations – overview on instrument demonstration.

13:00

Lunch

14:00-18:00

OROBOROS *Oxygraph*: On-line instrumental performance

- Instrumental background: measurement and correction as a function of P_{O_2} .
- High resolution of respiratory flux at various steady-states.
- Conceptual and methodological advantages of measurement at physiological low levels of oxygen.
- High time resolution for kinetic analyses: Determination of the time constant, dynamic corrections.

18:00-18:30

Special seminar: Vilma Borutaite (Cambridge): Mitochondria-mediated apoptosis in ischaemic myocardium.

19:00 Dinner Restaurant Rififi, Schöpfstrasse 14, Innsbruck

Friday, 14 June: **OROBOROS *Oxygraph* – *DatLab* software and instrumental service**
Seminarraum 2, UG1, Chirurgie (main building, University Hospital)
<http://www.uibk.ac.at/c/c5/c520/>

09:30-10:45 **The specialized software for High-Resolution Respirometry: *DatLab* – acquisition and analysis.**

10:45 Coffee

11:15-12:00 **Polarographic oxygen sensor and *Oxygraph* service**

- Cleaning of anode and cathode.
- Electrolyte and membrane application.
- *Oxygraph* - instrumental maintenance.

13:00 Lunch

14:00-15:45 **Further hands-on experience for the *Oxygraph* start-up.**
Seminarraum 2, UG1, Chirurgie (main building, University Hospital)
 or **Department of Transplant Surgery, D. Swarovski Research Laboratory** (small building opposite Dermatology, University Hospital)

15:45 Transfer from Innsbruck via Hall to Kolasass.

16:30 **Visit to WGT Electronics, Kolasass (Philipp Gradl), where the *Oxygraph-2k* is developed and built: *Oxygraph-2k* demonstration experiment and wine reception.**

ScienceWeek@Austria ... even respiration of wine is measured!
<http://www.scienceweek.at/index.html>

Saturday, 15 June: **SEMINARS ON MITOCHONDRIAL AND CELLULAR RESPIRATORY PHYSIOLOGY**
Faculty of Social and Economic Sciences (SoWi), Lecture Hall 2
 (Universitätsstr. 15, University of Innsbruck)
<http://www.uibk.ac.at/c/c4/c401/fakultaet/besucher/index-en.html>

10:00-10:20 ***Kathrin Renner, R. Kofler, G. Konwalinka, Margreiter R., E. Gnaiger (Innsbruck):*** Apoptosis and mitochondrial respiratory function in T-ALL cells: Qualitative and quantitative changes.

10:20-10:40 ***Eveline Hütter, K. Renner, P. Jansen-Dürr, E. Gnaiger (Innsbruck):*** Coupling and oxygen control in highly glycolytic primary fibroblasts.

10:40-11:00 ***Jordi Bermudez (Barcelona):*** Glycolysis depletion increased the cell resistance to oxidative stress and cytokines.

11:20-11:40 ***Zuzana Cervinkova (Prague):*** Changes in mitochondrial membrane potential in permeabilized hepatocytes.

11:40-12:00 ***Erich Gnaiger, A.V. Kuznetsov (Innsbruck):*** Mitochondrial respiration at low levels of oxygen and cytochrome c.

12:00-12:20 ***Hans Mayr (Salzburg):*** Mitochondrial energy metabolism - two competitive screening approaches.

Now we switch to German language:

ScienceWeek@Austria



Presentation at the final event of the ScienceWeek Austria 2002, Innsbruck
 Wine respiration - for the general audience

14:00-18:00 **... auch Wein atmet**

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Registration fee: Euro 350.— (or according to *Oxygraph-2k* quotation)

Accommodation: **Hotel Mozart, Müllerstr. 15, A-6020 Innsbruck** (walking distance to University Hospital, railway station and old city center)

W: <http://www.mozarthotel.com/>

M: hotel.mozart@aon.at

T: 0043-512-59538

F: 0043-512-595386

Special rate for workshop participants, per night, incl. breakfast:

Single room: Euro 40.70; Double room: Euro 67.00

Announcement: **BTK Session on Mitochondrial Physiology**
10. Sept. 2002; Bordeaux - Arcachon, France

Information, contact: <http://www.rmsb.u-bordeaux2.fr/BTK/>

**Links:**

University of Innsbruck: <http://www2.uibk.ac.at/ipoint/>

OROBOROS

Bioenergetics and Biomedical Instruments
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<http://www.orooboros.at/>

**WGT-Elektronik Philipp Gradl**

Rettenbergstr. 30a

A-6114 KOLSASS <http://www.wgt.at>

ScienceWeek@Austria - Wine Respiration:

http://www.scienceweek.at/search.php3?u_ID=ed23580f831ddac0ed7fe0fbbefa3f79&u_action=va_details&va_nr=3618&ID=ed23580f831ddac0ed7fe0fbbefa3f79

http://www.scienceweek.at/search.php3?u_ID=ed23580f831ddac0ed7fe0fbbefa3f79&u_action=va_details&va_nr=3916&ID=ed23580f831ddac0ed7fe0fbbefa3f79

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Tourism Innsbruck: <http://www.tiscover.at/innsbruck/>

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