



Oxygraph-2k

Mitochondrial Physiology Network 14.10: 1-4 (2012)

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Top 10 Reasons for OROBOROS INSTRUMENTS

Erich Gnaiger

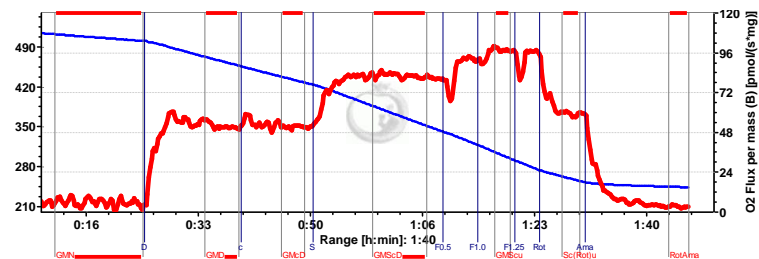
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We summarize 10 compelling reasons for the OROBOROS Oxygraph-2k, for collaborating with OROBOROS INSTRUMENTS, and for spreading the good news of the OROBOROS MiPNet. 'Top 10' reflects our corporate goals as a network rather than a linear sequence. The numbering, therefore, is largely arbitrary and does not express priorities.



1. High-Resolution - only the best is good for science.

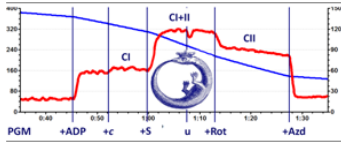
2. Long-Term Experience: The OROBOROS Oxygraph was the first commercially available mitochondrial respirometer using a computer for data acquisition. The O2k, therefore, benefits from our extensive experience with application-specific software development, reflected by the unique standard of DatLab. We are



the first to replace the circulating water thermostat by electronic Peltier temperature control. With many more 'firsts', the O2k is unique for high-resolution respirometry (HRR) and is the world-leading instrument as a result of our continuing innovations. The technical O2k-specifications make it a **'sole source'** instrument.

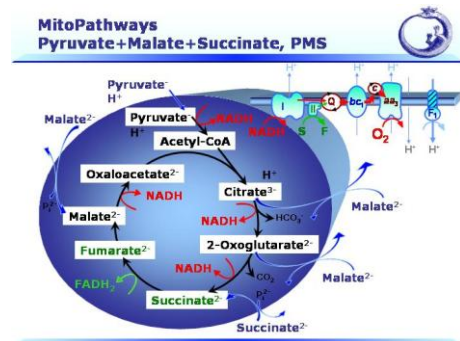
3. O2k-Workshops on HRR reflect a long tradition in teaching and practicing instrumental and technical performance, with **>70 O2k-Workshops** since 1991.





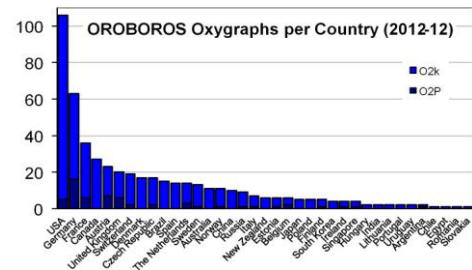
O2k-Workshops are special scientific events, for open exchange of practical and theoretical information, international networking, and providing an introduction into mitochondrial physiology. [📁](#)

4. O2k-Protocols. The O2k is delivered with a user-friendly O2k-Manual. In addition, scientifically based research protocols and theoretical perspectives provide open access to information, with quality and detail that is frequently lacking in the general literature. Our open information strategy is appreciated equally by beginners and experienced users, promoting a **new quality in science.** [📁](#)



5. World-Wide Mitochondrial Physiology Network – OROBOROS MiPNet.

Based on its outstanding quality, the O2k has spread world-wide and is applied in internationally leading laboratories in **37 countries.** The OROBOROS MiPNet is a network of experienced users, open for direct contact between scientists in the expanding field of cell respiration, for immediate exchange of experience, transfer of user-innovation, and continuous optimization of Quality Assurance. [📁](#)



The expanding literature list contains **>800 O2k-Publications** and is a valuable source of references in mitochondrial respiratory physiology. [📁](#)




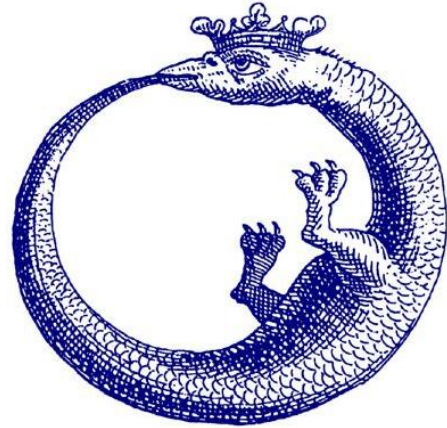
6. Service in the Service of Science. Our world-wide service is not limited to technical details, but includes scientific advice directly by the O2k-Team of scientists in research and development. By design, the O2k is most economical, with **minimum running costs.** [📁](#)


7. Innovation, Continuous Development and Optimization.

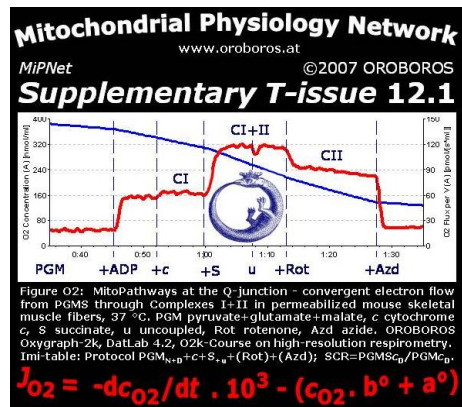
Instrumental development is a continuous process advanced by OROBOROS INSTRUMENTS. Long-term cooperation with our partner (Philipp Gradl, WGT-Elektronik: **O2k-Fluorometer**; O2k-Spectrophotometer) and the Universities of Innsbruck (protocols and biomedical applications) makes us a driving force in mitochondrial physiology. [📁](#)



8. No Investors Involved. OROBOROS INSTRUMENTS Corp. is entirely independent of any investors. From the start, therefore, our policy has not been dictated by profit orientation, but aims at a best value/cost ratio. The positive feedback from our customers makes possible a sustained development and steady innovation: **Cooperation and Feedback in Science** – symbolized by the **Oroboros**. 



9. No Expensive Advertisement. OROBOROS INSTRUMENTS provides and spreads high-quality information. We deliberately refrain from expensive advertising campaigns, which add no value to a product yet have to be paid by the end user. Our investment into HRR is expertise and the dedicated high-quality work of the OROBOROS O2k-Team and of our partners. Our enthusiastic customers provide the most valuable, economic and informative advertisement for our products. 



10. Cooperation and Corporate Social Responsibility. Cooperation and CSR are integral to our corporate aims and HRR, reflected in the quality and sustainability of our products.

- **Bioblast Wiki** 

Integrating the spirit of Gentle Science and Scientific Social Responsibility

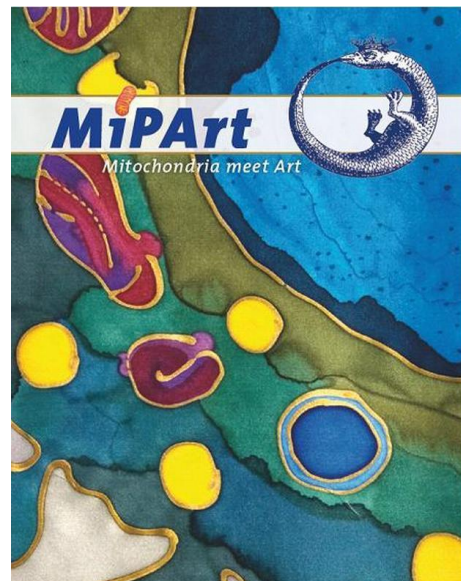


- Regional and international cooperations with academic institutions:



K-Regio project [MitoCom Tyrol](#); [Houska Award 2011](#); [Oncotyrol](#); [AltitudeOmics Bolivia \(2012\)](#); [Xtreme Everest \(2013\)](#).

- The [Bioblast Conference 2012](#): 20 years of HRR; 10 years of O2k.
- The Oroboros-House – our office and ...
- The [MiPart Gallery](#) for jointly translating mitochondrial research into messages for the general community: *Mitochondria are bioblasts – the organisms in our cells* – Science and Tempo giusto.



Odra Noel (London)

Bioblast Wiki



Integrating the spirit of
Gentle Science and
Scientific Social
Responsibility

OROBOROS O2k-Team¹

Bioblast was launched as a glossary and index for high-resolution respirometry (OROBOROS INSTRUMENTS: **OroboPedia**) and Mitochondrial Physiology (**MitoPedia**), to find topics quickly, as a dynamic tool for summarizing definitions of terms, symbols and abbreviations - an innovative, collaborative wiki database [2,3].

What is the aim? Bioblast provides a platform for **Gentle Science** [4] in the spirit of Scientific Social Responsibility. Catalytically working as an *Information synthase* (see logo [3]), **MitoPedia** supports the decentralized evolution of a glossary of scientific terms, for developing a consistent nomenclature in the growing field of mitochondrial physiology. The corresponding category **Publications** provides a portal for sharing, disseminating and commenting relevant literature in mitochondrial physiology, with context-related 'filters' for references. Bioblast allows the *evolution* of a scientific publication - providing space for open discussions and extensions of an otherwise static *paper*. This applies specifically to the sections of *Methods and Materials*, *Discussion*, and *References*, which may be limited by space in original publications. Detailed information added and edited should be helpful in practice. For example, **O2k-Protocols** are found now more quickly and users are encouraged to contribute and share their expertise.

How to register? Write to us, and we will register you with your real name, as in a scientific publication. Anonymous or pseudonymous contributions to Bioblast do not follow the scientific attitude of publication. Mail to barbara.meissner@oroboros.at for registration or if you need help in editing.

How does it work? We invite scientists, students, and technicians in mitochondrial physiology and pathology to join as 'active users' in the spirit of Gentle Science, to ensure that the Bioblast Wiki will develop into a database of top-quality scientific information. This can be achieved only by an expert-moderated wiki - with input and feedback of a large benevolent user community of experts in mitochondrial physiology.

All of you can shape the Bioblast Wiki by bringing together scientists working in divergent disciplines, to discuss, to resolve differences, to spread new knowledge and techniques; thus meeting the demand to integrate current developments in the methodologically and conceptually complex field of mitochondrial physiology.

1. Barbara Meissner, Anita Wiethüchter, Mario Fasching, Erich Gnaiger
2. A *wiki* (Hawaiian, meaning 'fast') is a dynamic and collaborative website. Cunningham Ward: [What is a Wiki](http://www.wiki.org/wiki.cgi?WhatIsWiki); WikiWikiWeb: <http://www.wiki.org/wiki.cgi?WhatIsWiki> 2010-09-09
3. The **Bioblast logo** combines mitochondrial art, from 'ATP synthase congregation' by Odra Noel, with the Oroboros, "the tail-eater" - a dragon forming a circle, where 'creation and the created become one in an inseparable process' <http://www.mipart.at/index.php?oroboros-archetypical-symbol> 2010-11-29
4. Gentle Science Shapes the World - http://www.bioblast.at/index.php/Gentle_Science 2012-11-29