

Oroboros Installation and startup support session

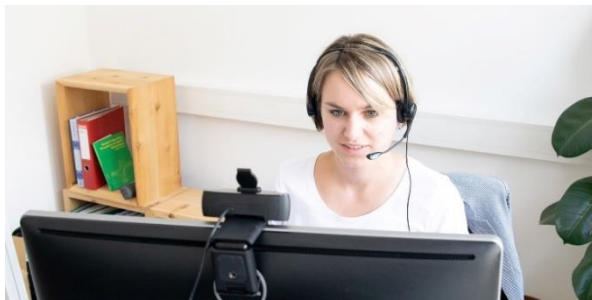
Mitochondrial Physiology Network 26.07(01):1-6 (2021)

Version 01: 2021-06-14 NextGen-O2k DatLab 7 ©2020 Oroboros

Updates: <https://www.orooboros.at/index.php/installation-and-startup-support-session/>



Installation and startup support session



The **Installation and startup support session** is a remote support session with an Oroboros expert. This online support session will focus on:

1. OroboPOS service, O2k instrumental setup and DatLab 7.4 overview
2. O₂ calibration and instrumental background
3. Discussion with an Oroboros expert

Via a live video link, Oroboros experts guide you step-by-step on **O2k instrumental setup** and service of the polarographic oxygen sensors (**OroboPOS**) for instrumental quality control system, an essential component of HRR. During your session there will be time for discussion with our expert.

The goal of this training session is to install and set up your O2k so that it is ready for you to begin using. As we do not cover protocol design, you will find the [Blue Book](#) (5th edition) and the MitoEAGLE Bioenergetics Communication [Mitochondrial physiology](#) provide a basic introduction to

mitochondrial physiology. These along with a wide range of standardized substrate-uncoupler-inhibitor-titration (**SUIT**) protocols, which can be further customized for application to your biological samples, will help address your specific research questions.

The Installation and startup support session is composed of:



O2k-Manual: Repository of online manuals (unlimited access) which guide beginners and experienced users from the instrumental set-up to data analysis.



The **O2k-Videosupport** provides valuable assistance, complementary to the O2k-Manual. These video clips are Open Access.



DatLab 7.4 software for data acquisition and analysis, specifically developed for high-resolution respirometry with the O2k-FluoRespirometer. Instrumental and substrate-uncoupler-inhibitor titration (SUIT) **DL-Protocols** which are included in DatLab 7.4 provide a guide through the sequence of steps for instrumental and biological experiments.



Individual face-to-face **virtual coaching** sessions (this takes place on the dates to be confirmed). The virtual coaching includes tutoring, guidance, questions and discussions. **8 hours** of virtual coaching are included in the Installation and startup support.

Materials for self-study








» https://wiki.oroboros.at/index.php/Installation_and_startup_support_session_self-study_material

It is recommended that participants prepare for their first live sessions by going through the self-study material. The content will lead participants through the set-up of the instrument and introduce the field of HRR.

The date of the live sessions will be communicated to the participants once a [registration form](#) is received.

DatLab 7.4 has to be installed on the computer to which the O2k is connected ([O2k-Videosupport: DatLab 7 installation](#)).

Program

Session	Duration
Part 1.1: OroboPOS service and O2k instrumental setup	
Hands-on: OroboPOS service <ol style="list-style-type: none"> OroboPOS Cathode cleaning Anode cleaning Membrane mounting 	Start-up 2 h 
Hands-on: O2k instrumental setup <ol style="list-style-type: none"> O2k FluoRespirometer Insert OroboPOS Insert O2k Chamber Chamber volume calibration 	Start-up 2 h 
Part 1.2: DatLab	
DatLab overview	Start-up 1 h 
Part 2: O₂ calibration and instrumental background	
Hands-on: Quality control 1: Oxygen calibration DL-Protocol: O2k-cleaning BeforeUse DL-Protocol: O ₂ calibration air	Do-it-yourself 1.5 h 
Hands-on: Quality control 2: Oxygen background Select one DL-Protocol according to your needs: Instrumental O ₂ background TiP2k Instrumental O ₂ background manual injections Instrumental high O ₂ background TiP2k Instrumental high O ₂ background manual injections	Do-it-yourself 2 h 
DatLab 7.4 analysis and discussion	1 h 
Part 3: Discussion with an Oroboros expert	
To address any outstanding questions, or cover a topic of your choice	2 h 

Tutors

Cardoso Luiza	Mitochondrial Wizard, PostDoc, Oroboros Instruments
Cecatto Cristiane	Mitochondrial Phoenix, PostDoc, Oroboros Instruments
Di Marcello Marco	Research Magician, Oroboros Instruments
Doerrier Carolina	Scientific Motive Force, CSO, Oroboros Instruments
Garcia-Souza Luiz Felipe	Mitochondrial Adventurer, PhD student, Oroboros Instruments
Gnaiger Erich	Innovation Alchemist, CEO, Oroboros Instruments
Komlodi Timea	Mitochondrial Explorer, PostDoc, Oroboros Instruments
Schmitt Sabine	Bioenergetics Detective, PostDoc, Oroboros Instruments

Additional resources for self-study:



O2k-Procedures (unlimited access) explain various applications of the O2k (i.e. mitochondrial pathways, O2k-Demo experiments, O2k-Analysis, chemicals and media, O2k-mitochondrial preparations and mitochondrial and marker-enzymes).



Substrate-uncoupler-inhibitor titration (SUIT) protocols are applied to living cells and mitochondrial preparations. Oroboros [library of SUIT protocols](#) and the [SUITbrowser](#) offer help to find the best SUIT protocol for your research questions. The library of SUIT protocols and the SUITbrowser are available online with unlimited access.



MitoPedia includes a continuous development of a consistent nomenclature, terms, abbreviations and concepts in mitochondrial physiology and nonequilibrium thermodynamics, in the spirit of Gentle Science.



Bioenergetics Communications is the Open Access journal for publishing scientific and technical advances in bioenergetics and mitochondrial physiology as Living Communications.



O2k-Publications include relevant information of high-resolution respirometry.



Mitochondrial physiology. Gnaiger Erich et al – MitoEAGLE Task Group (2020) Mitochondrial physiology. Bioenerg Commun 2020.1. doi:10.26124/bec:2020-0001.v1.
[Mitochondrial physiology](#)

Bioenergetics Communications



The Open Access journal for publishing scientific and technical advances in bioenergetics and mitochondrial physiology as [Living Communications](https://www.bioenergetics-communications.org)

» <https://www.bioenergetics-communications.org>

MitoFit Preprints



The Open Access preprint server for mitochondrial physiology and bioenergetics

» [https://www.mitofit.org/index.php/MitoFit Preprints](https://www.mitofit.org/index.php/MitoFit%20Preprints)

Acknowledgements

Program prepared by Beno M, Doerrier C, Tindle-Solomon L, Oroboros Instruments.
Supported by the project NextGen-O2k.

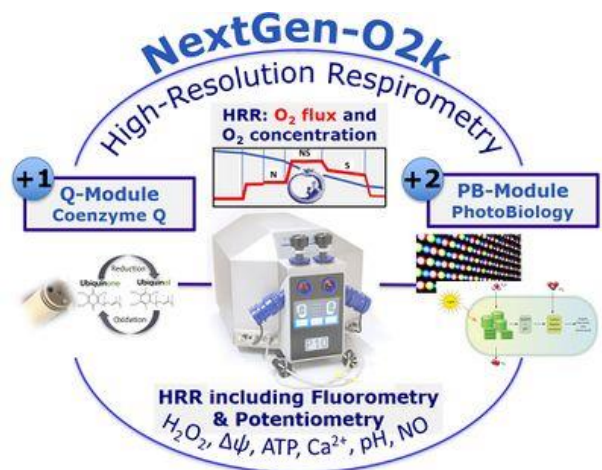


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 859770.



NextGen O2k

Oroboros - as a driving force in mitochondrial physiology - extends the analytical and diagnostic power of high-resolution respirometry by integration of NADH- and Q-redox monitoring in the **NextGen-O2k**. We aim at establishing the Oroboros quality control management for dissemination to our worldwide O2k-Network laboratories. This will become an effective contribution to address the acute *reproducibility crisis* of scientific investigation. In the spirit of Open Science and global networking, we will enable data sharing across projects and institutions in an Open Access database on mitochondrial physiology and pathology, to resolve the *inflation crisis* and ultimately the *value-impact crisis* of present academic publication. This will support key developments in mitochondrial medicine. In addition, we expand our business to algal biotechnology and ecology with the photobiology module of the NextGen-O2k, widening our focus from medicine to environment and climate.



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Mitochondria and cell research