



Respirometry Course - Las Vegas, Nevada

An Introduction To Animal Respirometry:

The respirometry course - held in Las Vegas, NV - teaches participants how to measure metabolic rates using indirect calorimetry. We will apply techniques for measuring real-time O_2 consumption, CO_2 production and water vapor loss for subjects ranging from small invertebrates to large mammals. Participants can work with single animal and high through-put systems in both open-flow and stop-flow.

Hands On: The course leads participants through all steps of setting up apparatus, configuring data acquisition, acquiring data, and analyzing data both manually and automatically.

Cost: \$1,895 per participant. Included in this fee are all laboratory costs and course materials.

Course Materials: All coursework materials are provided including copies of all presentations.

Instructor: The course is taught by Drs. John Lighton, Thomas Foerster and Barbara Joos. Dr. Lighton - the president of Sable Systems - is a world expert on respirometry with over 80 peer-reviewed publications on respirometry. Dr. Lighton is also the author of the preeminent work on respirometry: *"Measuring Metabolic Rates: A Manual for Scientists"*, available from Oxford University Press.

Registration: For questions, more information, or to register, contact Sable Systems by e-mail to support@sablesys.com or by phone at 702-269-4445 in the US or +49 30 53054 1002 in the EU.



Respirometry Course - Schedule

Day 1:

- **Welcome and Orientation:**
Introduction to workspace and equipment.
- **Classroom Lectures:**
Theory of respirometry including stop-flow and open-flow techniques. Fundamentals of gas analysis, data acquisition and analysis. Instruction on integrating instrumentation and an acquisition system for maximum productivity.
- **Introduction to Data Acquisition:**
Initial work with Expedata and instrumentation begins toward the end of the day.

Day 2:

- **Additional Lecture:**
Review of Day 1 lectures and additional information about analyzer function.
- **System Setup:**
Complete setup of a respirometry system. Several different stations are setup for different subjects of study. Input is requested to make the course as applicable to the participants as possible.
- **Data Acquisition:**
Using Expedata, setup of the acquisition system to coordinate with the various respirometry systems. Initial data acquisition from open-flow respirometry system.

Day 3:

- **Data Acquisition:**
Using Expedata, acquiring data from various respirometry systems continues. Participants will measure metabolism on chosen subjects of study under close supervision of instructors.
- **New Techniques:**
Stop-flow and high through-put respirometry setups is discussed, setup and implemented.
- **Data Analysis:**
Initial work with Expedata data analysis tools begins toward the end of the day.

Day 4:

- **Data Analysis:**
Using Expedata, manual analysis of acquired data will be discussed in detail. Methods for automating and repeating data analysis will be covered.
- **Advanced Analysis:**
New techniques in data analysis will be covered on an individual basis.
- **Future Considerations:**
Group discussion on what the data tells us - and what it doesn't. Comparing and contrasting different approaches and experimental animals.
- **Wrap-Up**