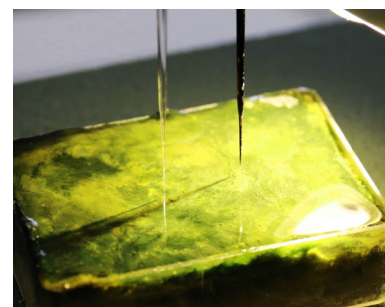


ENABLING
MICROSCALE
RESEARCH



MicroProfiling System

One set-up - many possibilities

With its stability, precision, and eminent spatial resolution the MicroProfiling System is an outstanding tool for microscale measurements for a variety of applications. The MicroProfiling System has been applied in numerous research fields, from sea floor **biogeochemistry** over **plant physiology** to various fields of **human physiology** including kidney, cancer, and brain research.

- Multi-purpose set-up for microscale measurements
- Extreme positioning accuracy (down to 0.5 μm)
- High spatial resolution (down to 0.5 μm)
- High temporal resolution (>100 samples/s)
- For all Unisense potentiometric and amperometric microsenors

Study **microprofiles** in sediments or biofilms, determine small-scale gradients, follow **temporal changes**, or measure **photosynthetic production** with the light-dark switch technique. Add the NanoRespiration kit and you can measure **respiration of single eggs** of e.g. cows, mice, copepods, or starfish.

O₂

N₂O

H₂S

pH

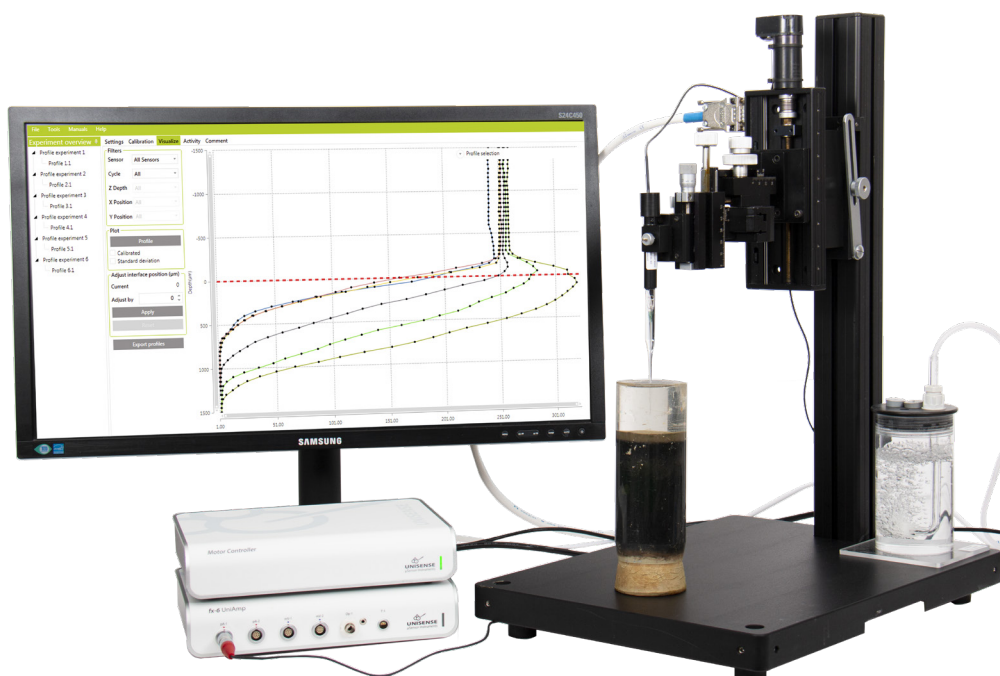
H₂

Redox

NO

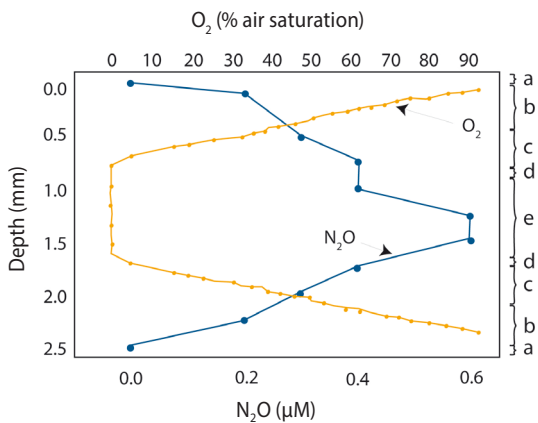
Temp

EP



For all microprofiling measurements, a steady and stable **laboratory (or in situ) stand** and a **micromanipulator** are essential to ensure the required stability and accuracy. You can perform **manual or automated profiles**. In manual profiles, the micromanipulator is operated by hand. For increased accuracy and automatic profiles, a **motor unit** is required. Profile depth, step size, number of replicas, and time between profiles are set in the profiling software which then controls the motor unit and manages your experiment.

Convenient data acquisition can be performed with our fx-6 UniAmp, or another Unisense amplifier, and SensorTrace Logger which is freeware. For profiling measurements, the SensorTrace Profiling software is recommended. This program provides profiles in real time in one, two, and three dimensions. For more **inspiration** on microsensor applications, visit our website which has a comprehensive list of articles based on microsensors. You are also welcome to **visit Unisense** for a 2-3 day workshop in microelectrode work.



Logger

Freeware for sensor calibration and data logging



Profiling

Software for Micro-Profiling set-up and analysis

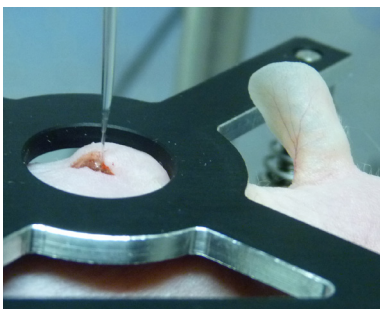
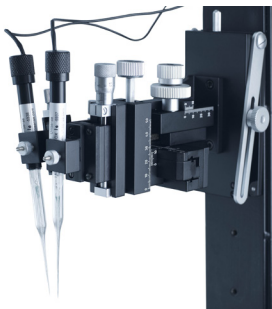


Photo

Software for photo-synthesis studies using light-dark shift method

*N₂O and O₂ profiles for the midgut region of a sedated earthworm *L. rubellus*. Letters: a) Cuticula, b) Muscles, c) Coelom, d) Gut wall, e) Gut Horn, Schramm, and Drake (2003)*

SYSTEM COMPONENTS	PRODUCT
Sensor	All Unisense Sensors and Electrodes
Amplifier	fx-6 UniAmp or another Unisense amplifier
Micromanipulator	MM33 or MM33-2 (Single or double head)
Motorized MicroProfiling	MOTCON (Motor controller) MMS (Micromanipulator stage) MMS-A (Stage adapter)
Software	SensorTrace Profiling
Laboratory Stand	LS
Calibration Chamber	CAL300



FOR MORE INFORMATION:
WWW.UNISENSE.COM
INFO@UNISENSE.COM