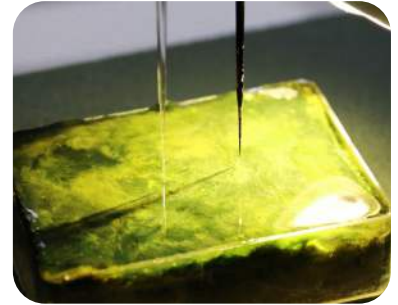


ENABLING  
MICROSCALE  
RESEARCH



## 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 setup for microscale measurements

High temporal resolution (>100 samples/s)

Extreme positioning accuracy (down to 0.5  $\mu\text{m}$ )

High spatial resolution (down to 0.5  $\mu\text{m}$ )

For all Unisense potentiometric and amperometric microsensors

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

O<sub>2</sub>

N<sub>2</sub>O

H<sub>2</sub>S

pH

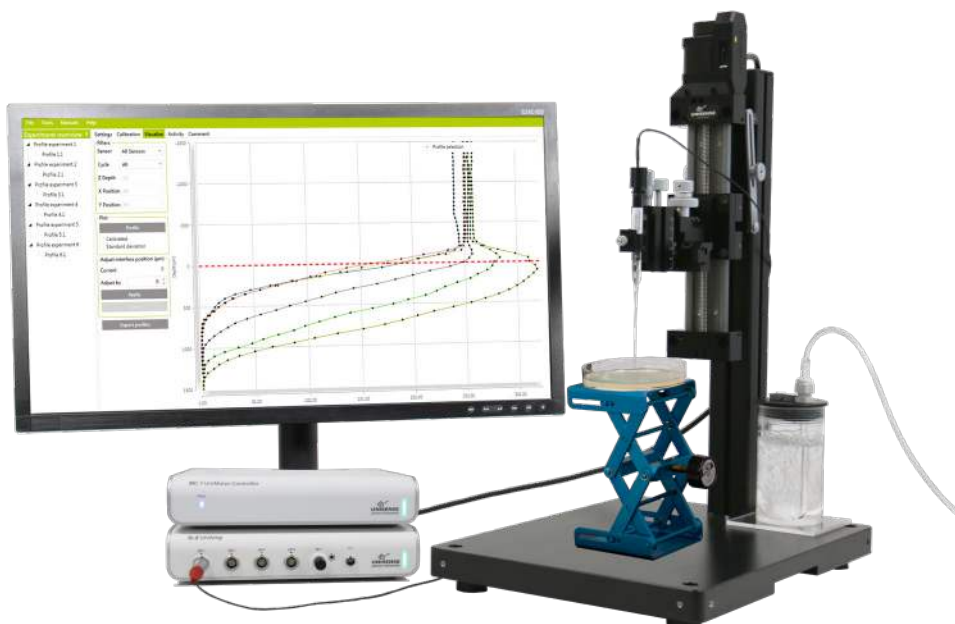
H<sub>2</sub>

Redox

NO

Temp

EP



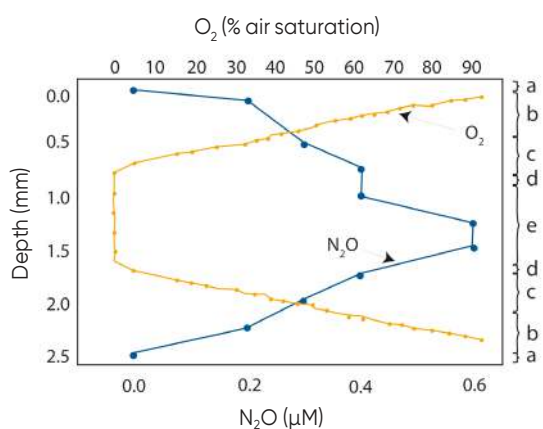
For all microprofiling measurements, a steady and stable **laboratory (or in situ) stand** and a **micromanipulator** are essential to ensure the required stability and accuracy.

You can perform **manual or automated profiles**. In manual profiles, you operate the micromanipulator by hand. For increased accuracy and automatic profiles, you need a **motor unit**. You set profile depth, step size, number of replicas, and time between profiles in the profiling software which then controls the motor unit and manages your experiment.

For data acquisition, you can choose between a full range of amplifiers, from our fx-6 UniAmp to our Single Channel UniAmps. SensorTrace Logger for sensor calibration and data logging is always included.

For profiling measurements, we recommend the SensorTrace Profiling software. This program provides profiles in real time in one, two, and three dimensions.

For more **inspiration** on microsensors applications, you can find a number of application notes and close to 3,000 peer-reviewed microsensors articles on [www.unisense.com](http://www.unisense.com).



*N<sub>2</sub>O* and *O<sub>2</sub>* profiles for the midgut region of a sedated earthworm *L. rubellus*.  
 a) Cuticula, b) Muscles, c) Coelom, d) Gut wall, e) Gut Horn, Schramm, and Drake (2003)



**Logger**

Freeware for sensor calibration and data logging



**Profiling**

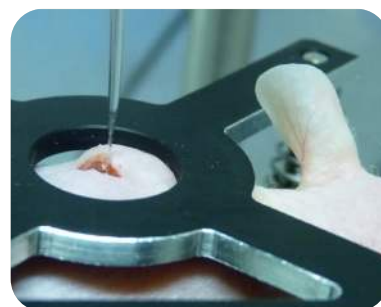
Software for MicroProfiling set-up and analysis



**Photo**

Software for photosynthesis studies using light-dark shift method

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	MC-1, MC-2, MC-3 (Motor controller) MS-15 (Micromanipulator stage)
Software	SensorTrace Profiling
Laboratory Stand	LS
Calibration Chamber	CAL300



FOR MORE INFORMATION:  
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