



8th Webinar



Biomonitors and Daphnia Toximeter application in Waste Water Treatment Plants

Webinar



Part 1	The value of Biomonitors	10 min
Part 2	DTox in WWTP	10 min
Part 3	Interview	10 min

Feedback
Follow up

Welcome



Detlev Lohse



Frederike Lohse

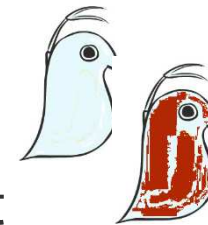
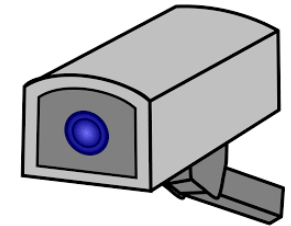


Sönke Kobarg

bbe Team

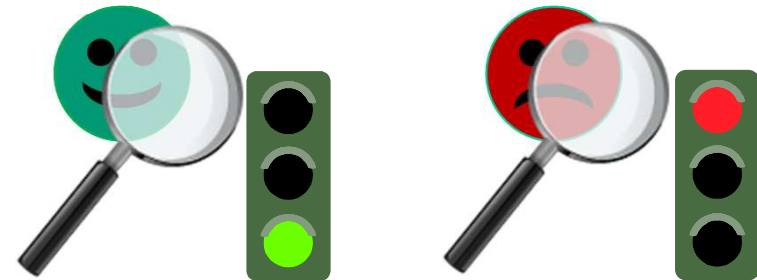
What are the bbe Biomonitors ?

- Living organisms are permanently exposed to a sample water flow and are continuously monitored inside of a biomonitor.
- The organisms change their behaviour or metabolism, if an acute poisoning (e.g. caused by pesticides or heavy metals) occurs.
- The changes are evaluated for toxicity assessment
- Combined with an alert/alarm system, the biomonitors act as toximeters



What is a Toximeter?

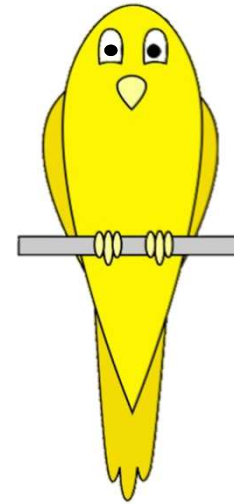
- The toximeter determines the water quality as result of measurement parameters.
- The toximeter determines toxicity on the whole and gives clear advice with pre-adjusted thresholds
- The determination does not say anything about composition of substances



Toximeters in history have some disadvantages



Food taster in Egypt



Canary bird in mining

bbe Toximeters rely on established organisms

Algae



Online

Water flea



Online

Fish



Online

Algae Toximeter



Fast and sensitive detection of toxic substances in water

- Principle
 - Measurement of photosynthetic activity of algae in sample water and with reference substance
- High sensitivity for a wide range of toxic compounds
- Low maintenance
- Customer specific alarm settings



Daphnia Toximeter

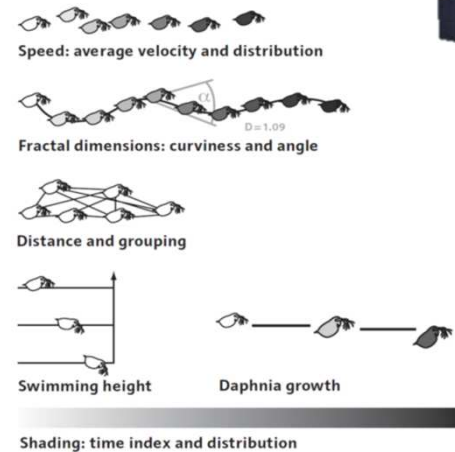


Fast and sensitive detection of toxic substances in water

- Principle
 - Water fleas exposed to a constant sample water flow observed by a camera
- High sensitivity
 - Especially for neurotoxins
 - To all toxic compounds that can harm human being
- Several behavioral parameters



Mobility and Agility of daphnia

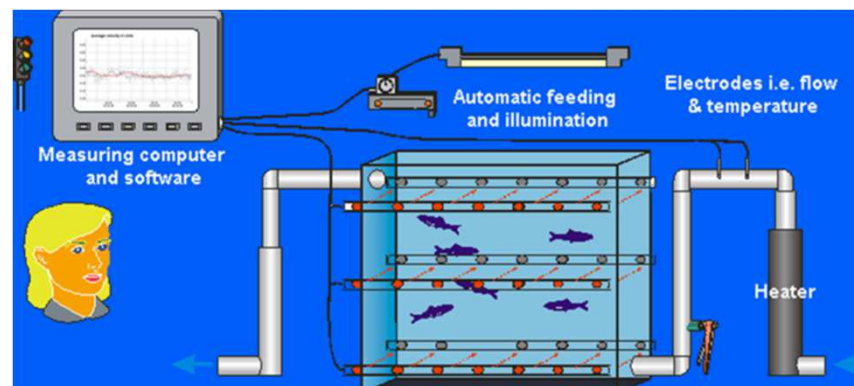
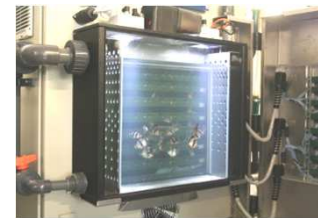


ToxProtect 64



Fast and sensitive detection of toxic substances in water

- Principle
 - Observation of fishes' fitness and survival
- Short reaction time
- Easy to use
- Low maintenance
- Low price
- Alarm Verification



End of part 1

