

# METHOD AND SYSTEM FOR SIMULTANEOUS DETECTION OF MICRO-PARTICLE CONCENTRATION IN SUSPENSION AND THEIR MORPHOLOGICAL AND PHYSIOLOGICAL TRAITS

## Field of use

Biotechnology, virus  
vector production and  
purification

## Current state of technology

Technology is offered as  
tech-transfer.

## Patent status

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## Background

Cyanobacteria, also known as blue-green algae, are common forms of photosynthetic bacteria present in most freshwater and marine systems. The monitoring of cyanobacteria is of growing interest in a number of research and monitoring fields and of particular interest is the monitoring of cyanobacteria as a public health risk. Obtaining real-time quantitative and qualitative data, on the level of intact micro-particle population is still a challenge.

## Description of offered Technology

Established and frequently used fluorescence techniques for detection and identification of organisms and particles in suspension are usually based on the analysis of individual units from which the conclusions about the population are drawn. These analyses are highly dependent on the nature and the size of the particle and while processing the individual unit often loose relevant basic information about the interactions between the investigated elements.

Invented method and device system allow maintenance of particles in suspension with no interference with their structure. The slow mixing in the sensing chamber transforms the highly turbulent flow in a steady unidirectional flow that passes the detection system. Photodiodes detect the average signal additionally carrying the information from the area of maximal detection. The detector forwards the average signal containing additional information on the morphological and physiological characteristics of micro-particles. Applicable in all areas of research, detection, diagnosis and monitoring of aggregated micro-particles, such as water quality monitoring.