



FlowCAM[®]

A Digital Imaging Particle Analyzer for Monitoring and Identifying Nuisance Algae and Particulate Matter

In critical water analysis and water quality monitoring environments, the ability to rapidly detect, identify and quantify nuisance algae or problem particulate matter in real-time is critical to providing high levels of customer satisfaction and to comply with environmental regulations.

Featuring patented technology, advanced flow cytometry and microscopy, the automated algae monitoring FlowCAM[®] accelerates sample processing to just a few minutes. With faster and more accurate detection, confident assessment of a growing presence of nuisance algae is achieved so that remedial action may be performed before the algae bloom becomes problematic in the distribution system.

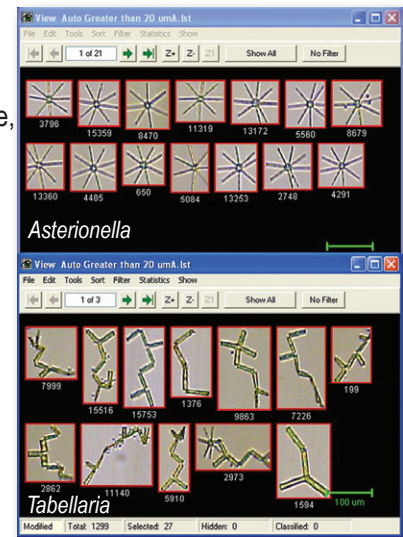
A Real-Time Visualization System for Monitoring and Analysis

- ### Applications
- ◇ Algae Monitoring
 - ◇ Detection
 - ◇ Automatic Identification & Classification
 - ◇ Counting
 - ◇ Particle Removal Evaluation
 - ◇ Early Detection of Zebra and Quagga Mussel Veligers
 - ◇ Wastewater Treatment
 - ◇ Real-time, remote monitoring
 - ◇ Measure particulate concentration
 - ◇ Filter Performance
 - ◇ Research
 - ◇ Training and Education

Need Help Controlling Taste & Odor Algae?

Using powerful pattern recognition techniques available in the VisualSpreadsheet[®] software, one can quickly and automatically differentiate between taste and odor causing algae and other particulate matter. No more manual counting through a microscope!

FlowCAM and its software are simple to operate, and will greatly reduce the time required to analyze water samples.



Easily Identify Nuisance Algae



Synura



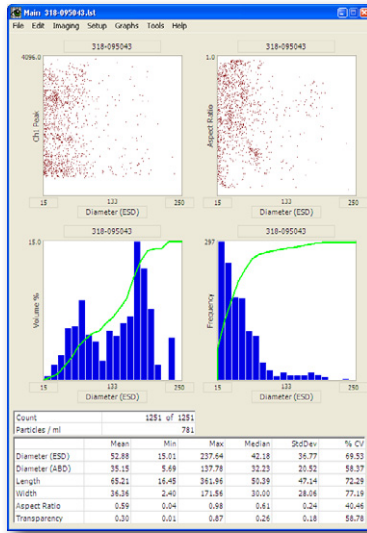
Anabaena

FlowCAM measures and stores up to 26 unique parameters for every particle imaged, giving it the ability to automatically differentiate and enumerate many different algal types using powerful image recognition techniques. And since every particle image is stored, the quantified FlowCAM results are easily verified qualitatively by interactively viewing the images.

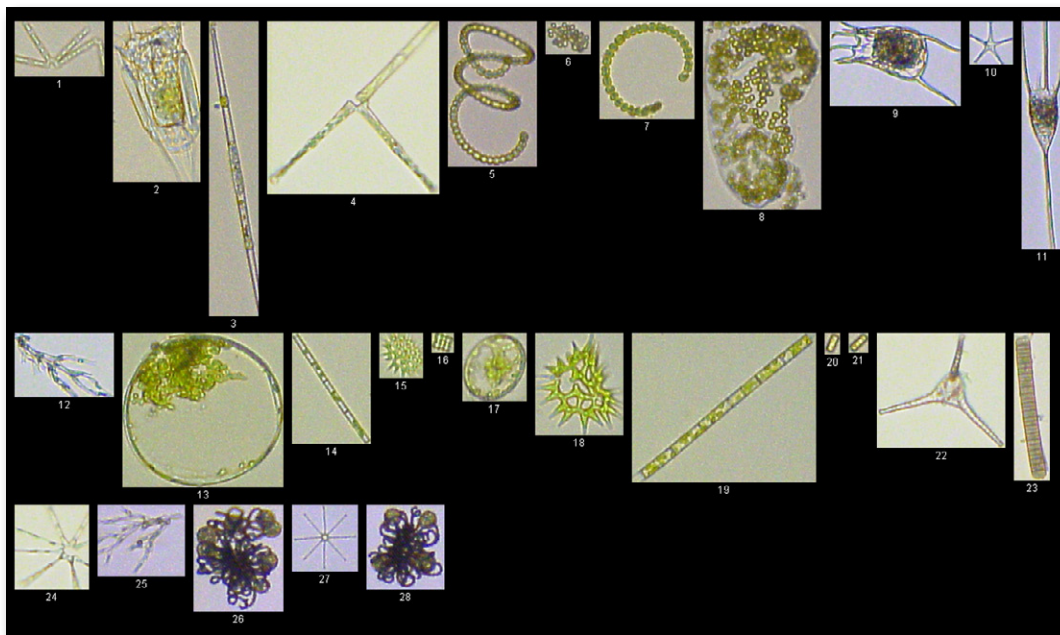
Libraries of specific algal species can be constructed and saved for future use. Once these libraries are constructed, they can be reused continuously over time. This not only reduces the amount of work in the future, but eliminates the user variability found in manual microscope counts (which has been shown to vary as much as 25% even for the same operator on the same sample). Since the classification is always based upon the same libraries, consistency in the results is insured.

Integrated VisualSpreadsheet® Analysis Software

FlowCAM® acquires high resolution microscopic images at a very rapid rate; typically up to 10,000 images/minute. The intuitive VisualSpreadsheet® analysis software uses proprietary methods that allow the user to sort, filter and classify particle images interactively. What once took hours, days or even weeks with a microscope can now be accomplished in minutes. As more particles can now be analyzed compared to traditional methods, results from a FlowCAM® analysis have a much greater statistical significance. Detailed particle data and summary statistics can be exported to database or spreadsheet applications.



The color particle images below were taken with the FlowCAM from a reservoir water sample. The Fluorescence Triggering method was used to trigger the camera only when living algal cells passed through the Flow Cell, whereby the two Fluorescent Channels both detect and measure the presence of fluorescence for each particle/cell. Fluorescence or Scatter Triggering is very useful when analyzing sparse samples where continuous imaging might not yield the desired results.



FlowCAM® Features Include

- ◇ High-Speed Digital Imaging (Color or Monochrome)
- ◇ Up to 26 different Particle Measurement Parameters
- ◇ Intuitive VisualSpreadsheet® Analysis Software
- ◇ Discreet or Continuous Sampling Operation
- ◇ Wide Size Range (3 µm to 3 mm)
- ◇ Automatic Pattern Recognition, Classification & Enumeration
- ◇ Fluorescence and Scatter Triggering / Measurement
- ◇ Bench Top and Portable Models Available

FlowCAM® Bench Top Model

The algae monitoring FlowCAM® includes four levels of magnification for analyzing algae and particles from 3 µm to 3 mm such as taste & odor algae, cyanobacteria and zooplankton.



The FlowCAM® comes with VisualSpreadsheet - proprietary software for manipulating, comparing and analyzing the acquired images and data in an easy to use spreadsheet based platform. Sort, filter and select particle images just as you would in a tabular spreadsheet while seeing the results visually as *images* instead of numbers.

What's In Your Water?

The FlowCAM can analyze your water sample in a fraction of the time it used to take using manual methods, and tell you *exactly* what is in it.

If interested in exploring whether the FlowCAM will meet your requirements, call Fluid Imaging Technologies to arrange for a Free Sample Analysis.