

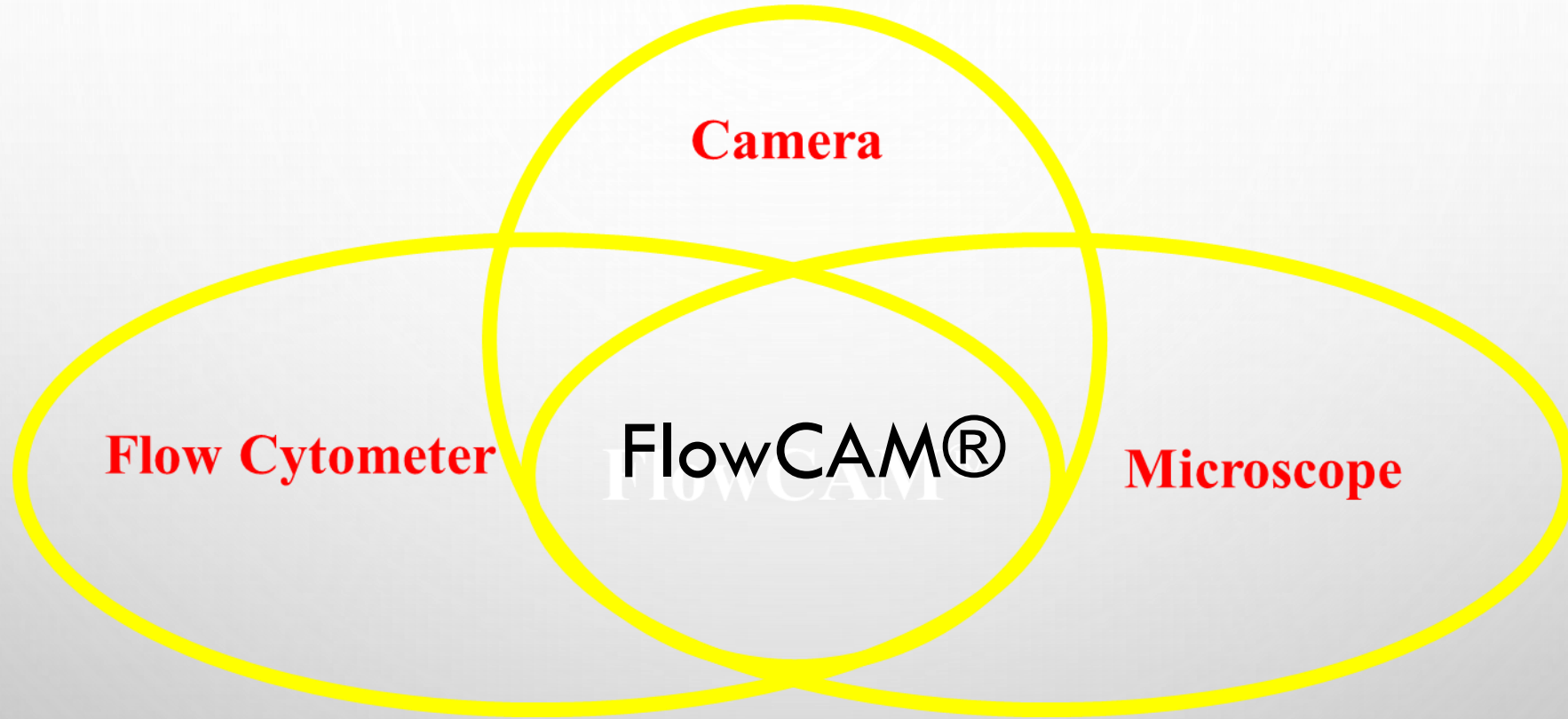
CONTINUOUS IMAGING FLOW CYTOMETER FOR DETECTION AND RESEARCH OF BIOLOGICAL POPULATION DYNAMICS AND PARTICULATE ANALYSIS

MICHAEL COHRS

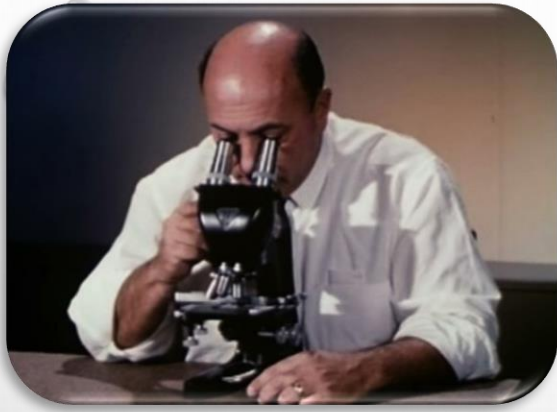
APPLICATIONS ENGINEER - AQUATICS MARKETS

FLUID IMAGING TECHNOLOGIES

FLOWCAM® IMAGING SYSTEM



Elevating An Old Technology



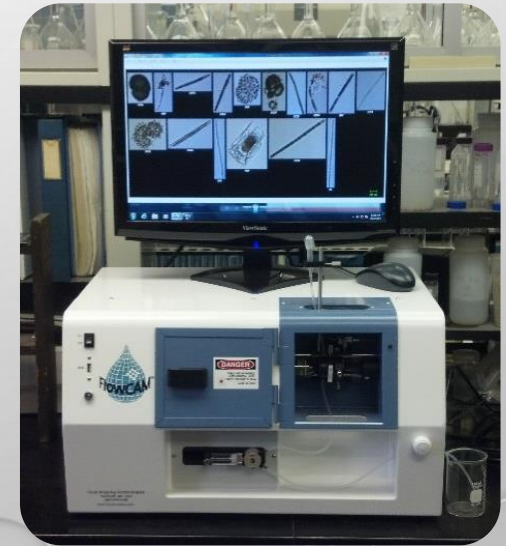
Traditional Light Microscopy

- ❖ Time Consuming Procedure
- ❖ Potential Inconsistencies
- ❖ Extreme Human Factor
- ❖ Unassisted Morphology
- ❖ One and Done



FlowCAM® Imaging System

- ❖ 3 Samples Run in Under 10 Min.
- ❖ Internal Cytometer
- ❖ Limiting Human Error
- ❖ 40+ Digital Parameters Assist Morphology
- ❖ Digital Memory Last a Long Time



Fluid Imaging Technologies

- Founded in 1999
- Maine, USA (Bigelow Laboratory)
- (**F**low **C**ytometer **A**nd **M**icroscope
(**F**low**C**am®)
- 800+ FlowCams Sold
- Applied Industries
 - Aquatic
 - Industrials
 - Oil and Gas
 - Process Water

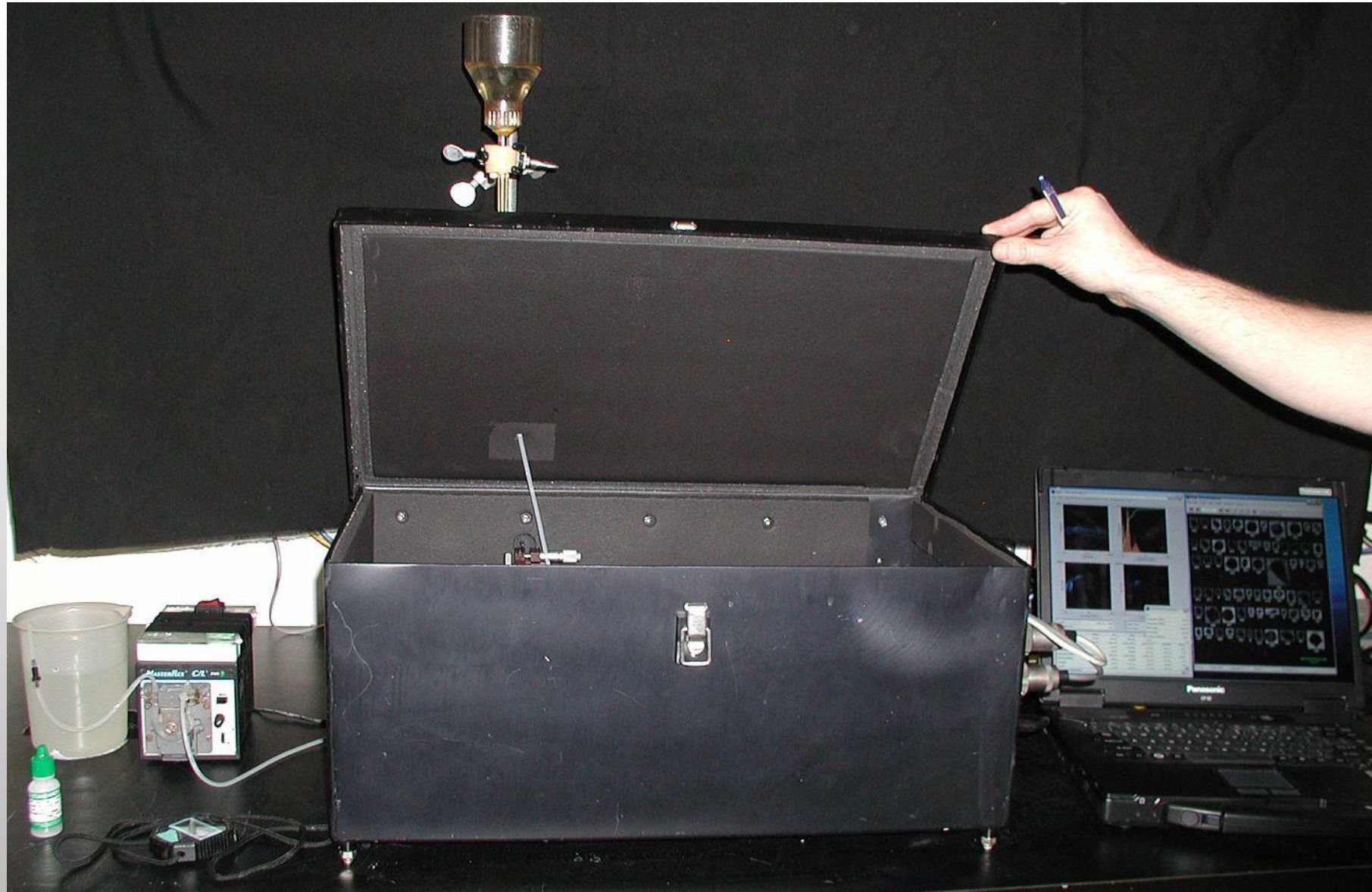


FLOWCAM USERS



50 Countries

FlowCam Evolution



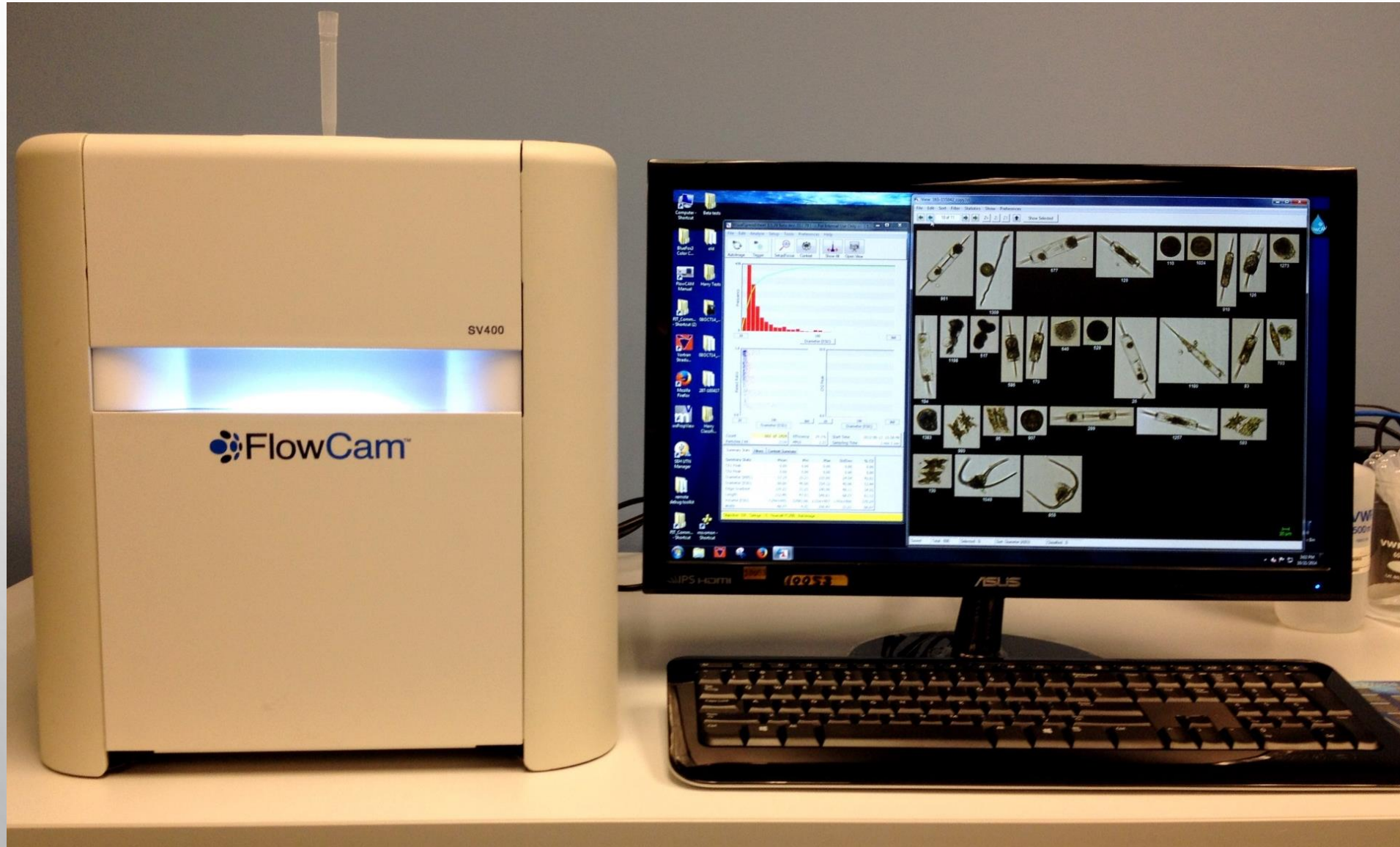
FlowCam Evolution



FlowCam Evolution



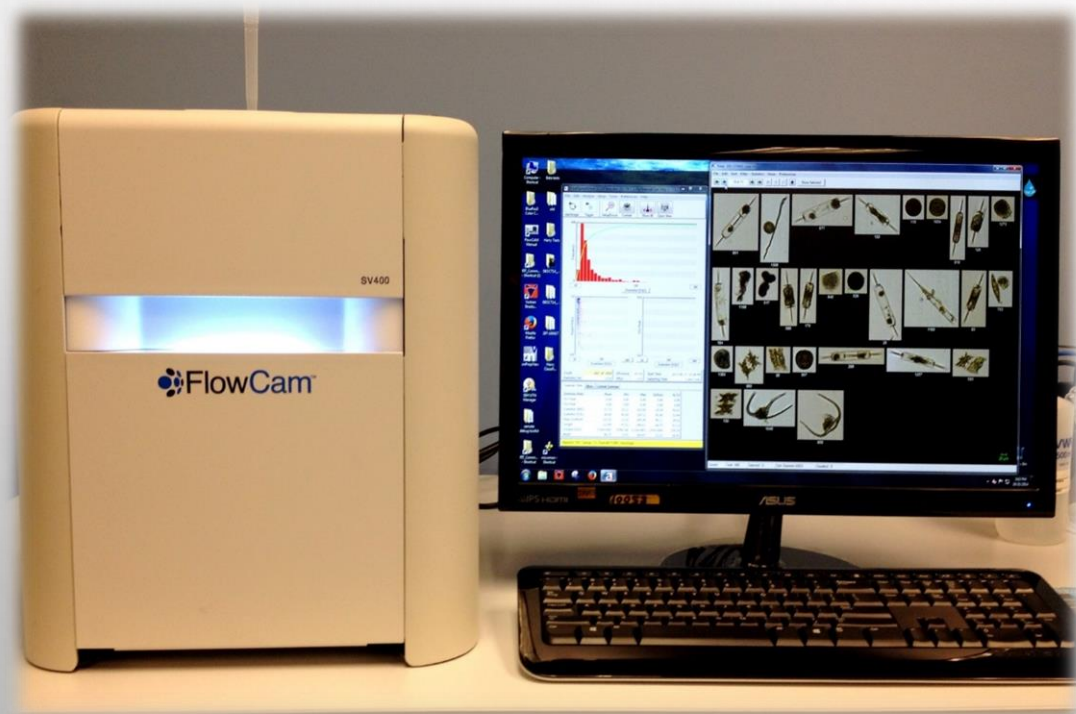
FlowCam Evolution



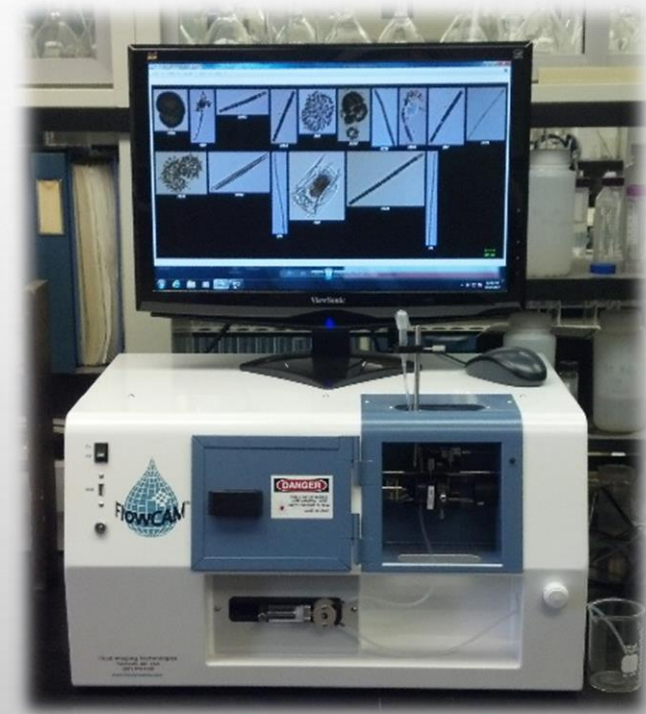
FlowCam® Dynamic Imaging Particle Analysis System

FlowCam SV

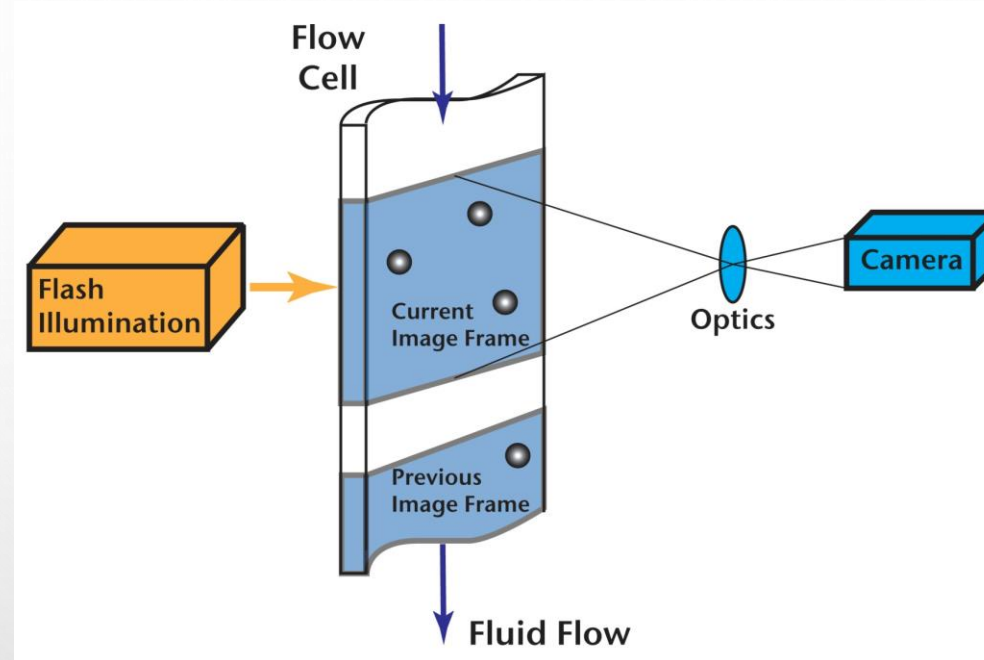
“High Sensitivity FlowCam” (HSFC)



VS Series

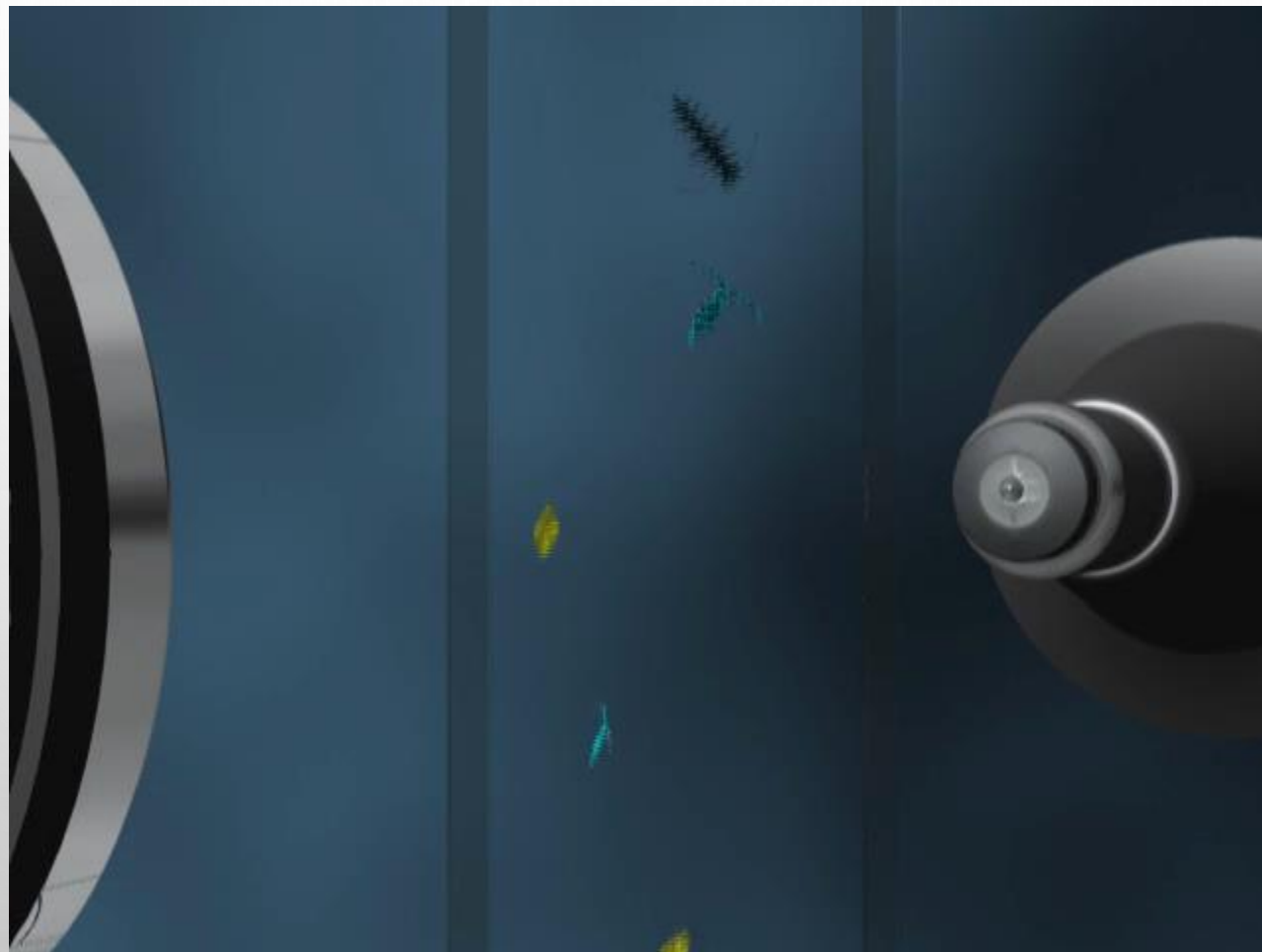


Operation Principle of the FlowCam[®]



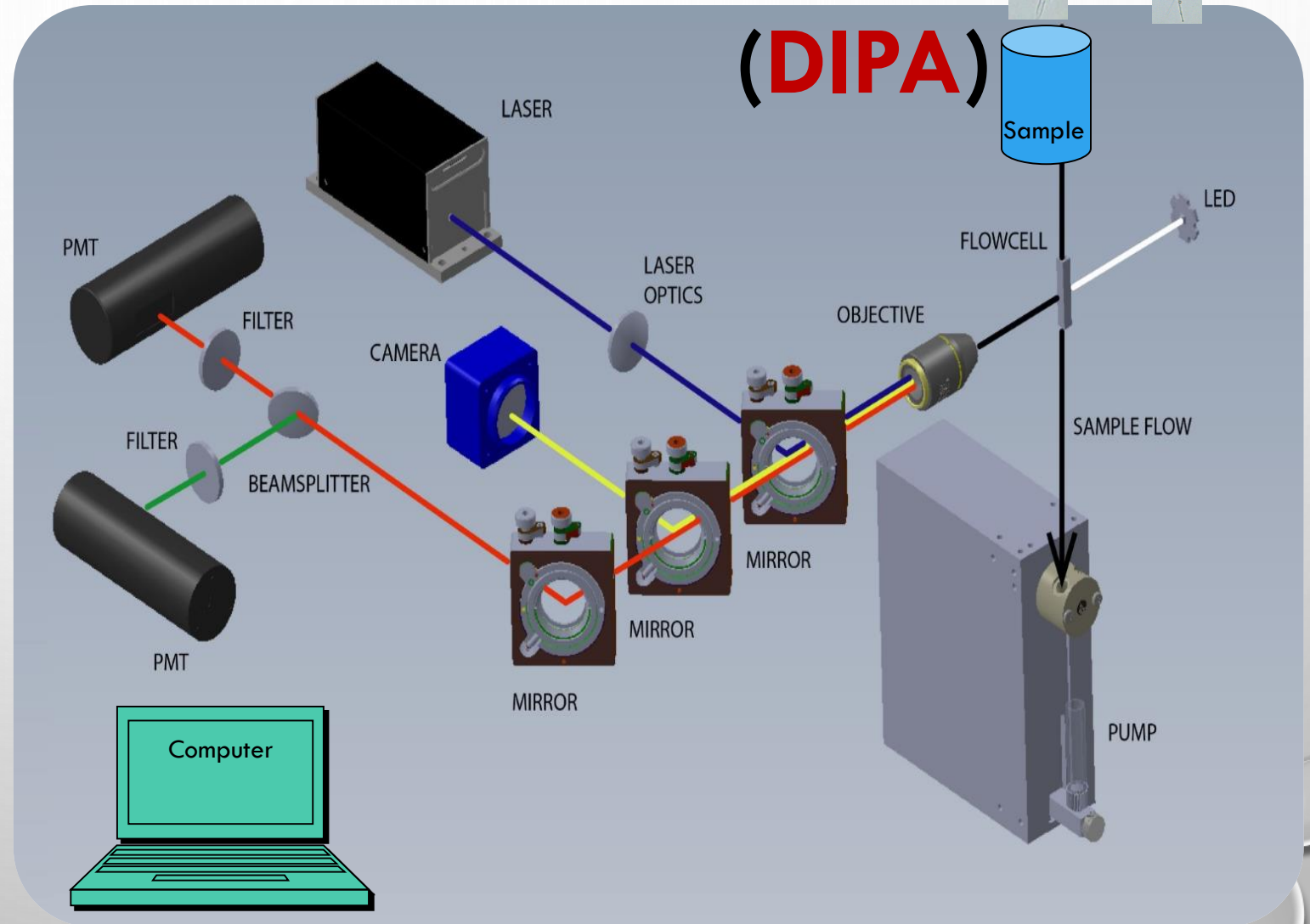
As the fluid flows in the flow cell past the illumination and camera, the flash illumination turns on and off; freezing the particles in a picture taken by the camera. This picture is then transferred to software where it is analyzed and displayed in our proprietary VisualSpreadsheet software

IMAGING PARTICLE ANALYSIS:



Dynamic Imaging Particle Analysis

- ❖ Constant Fluidic Motion
- ❖ Particle Image Isolation
- ❖ Image Acquisition and Analysis
- ❖ 40+ Size and Shape Measurements
- ❖ Quantification and Classification Software



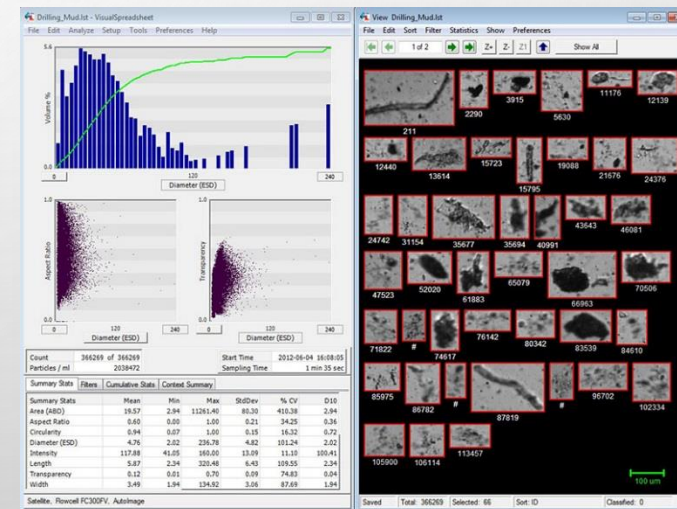
THE FLOWCAM® IMAGING SYSTEM

Technical Specs

- Fully self-contained (computer, monitor, etc. included)
- Four magnifications (2X, 4X, 10X and 20X) available to accommodate broad range of sample particle sizes (2µm to 2mm)
- Automatic Classification from Preset Filters
- Intuitive VisualSpreadsheet® software for data capture and analysis
- Many options available including cross-polarized illumination, 488, 532 or 633 nm laser, variable emission filters, color camera and many different flow cell sizes

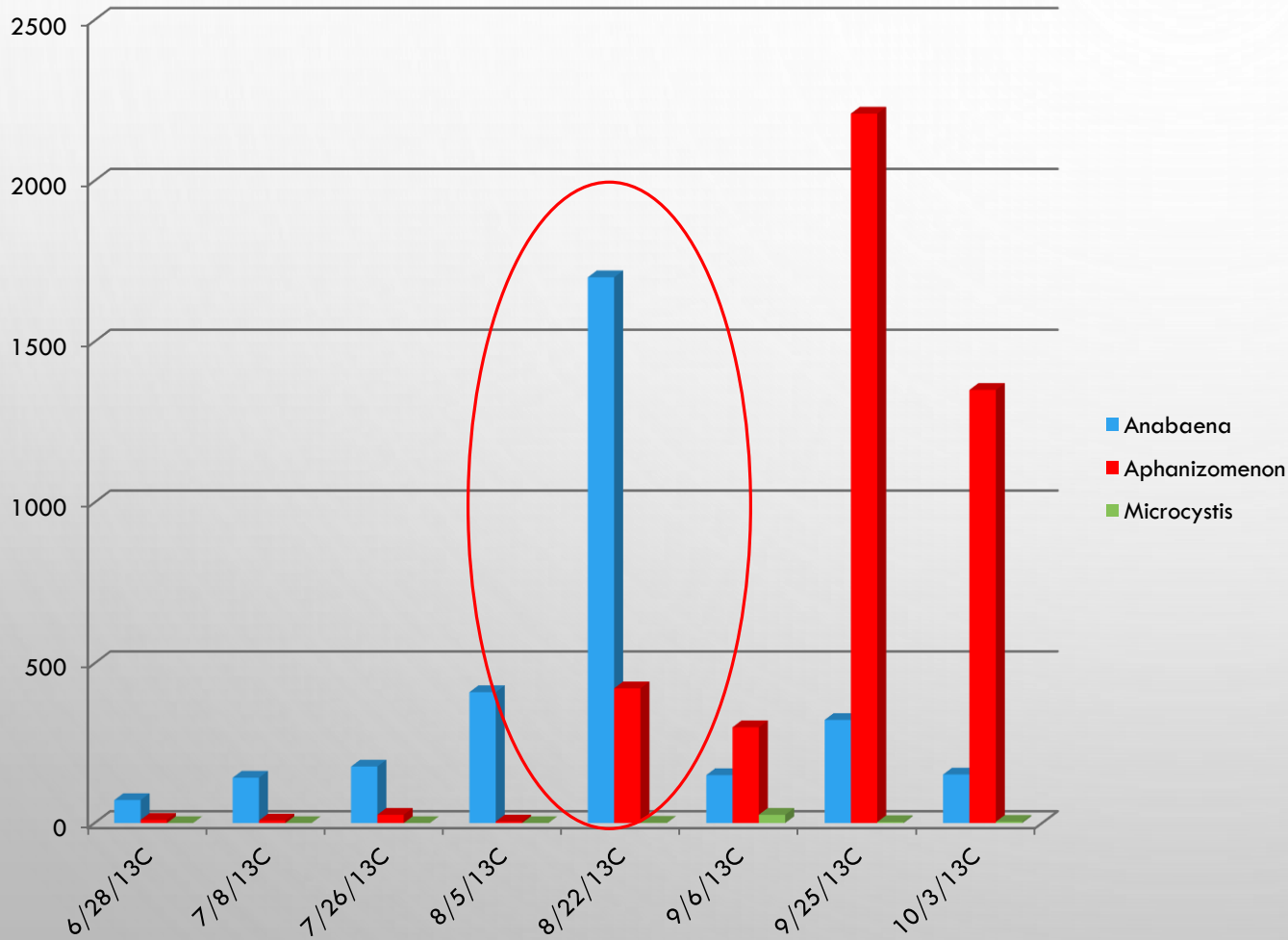
Quick Image Acquisition

<http://www.youtube.com/watch?v=STp2r5aotfk&feature=youtu.be>

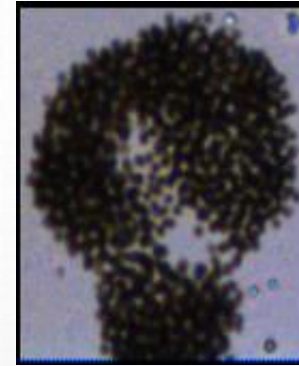


	June		July		August		September		October			
1					AP	9			AP	24		
2					AP	24			AP	24		
3			NAPS	20				AP	24	AP - 10x	24	
4								AP	24	AP	12	
5					AP	24		AP	24			
6					AP	24		AP	24			
7					AP	24						
8			NAPS	20	AP	24						
9					AP	24		AP	24			
10			NAPS	20				AP	24	Noon - 10x	6	
11								AP	24			
12			NAPS	20	AP	24		AP	24			
13					AP	24		****AP	24			
14					AP	24						
15			NAPS	20	AP	24						
16					AP	24		AP	24			
17			* AP	24				AP	24			
18								AP	24			
19					AP	24		AP	24			
20					AP	24		AP	24			
21					*** AP	24						
22					AP	24						
23			Bill		AP	24		AP	24			
24	N-A-P-S	3	AP-10x	24				AP	24			
25			AP	24				AP	24			
26	NAPS	20	AP	24	AP	24						
27					AP	24						
28	NAPS	20			AP	24						
29			AP	24	AP	24						
30			**AP-10x- 4x/100	24				AP	24			
31			AP	24								
											Total	
Total Files		43		268		489		432		90	1322	
Total Days	3		13		21		18		5			
Sample Schedule 2013												

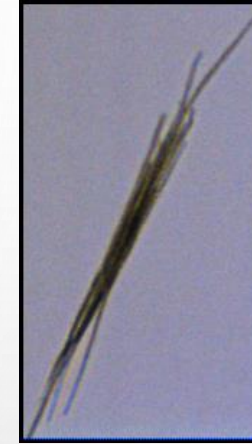
CYANOBACTERIA MONITORING



Microcystis



Aphanizomenon



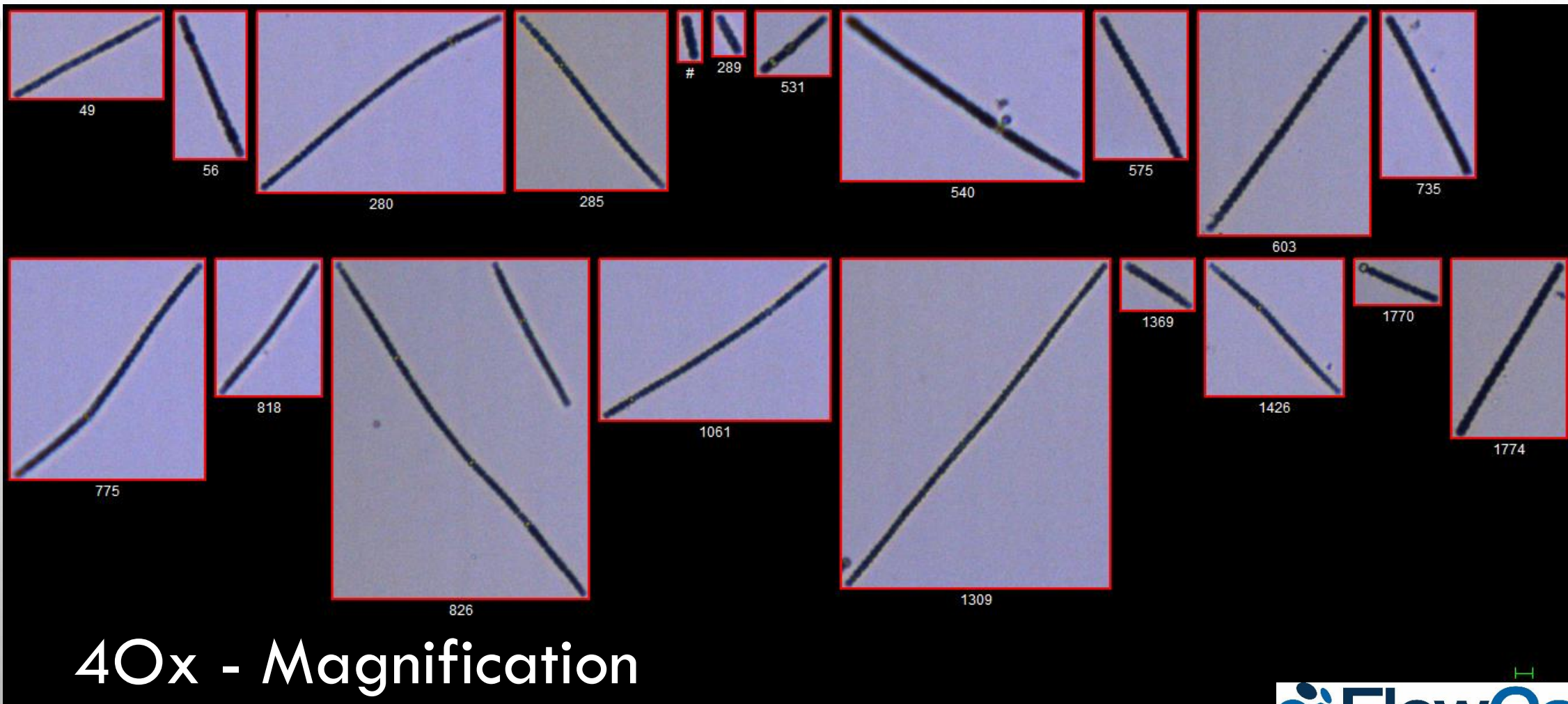
Anabaena



Accurate Population Dynamics So
You Know When to Test and Treat

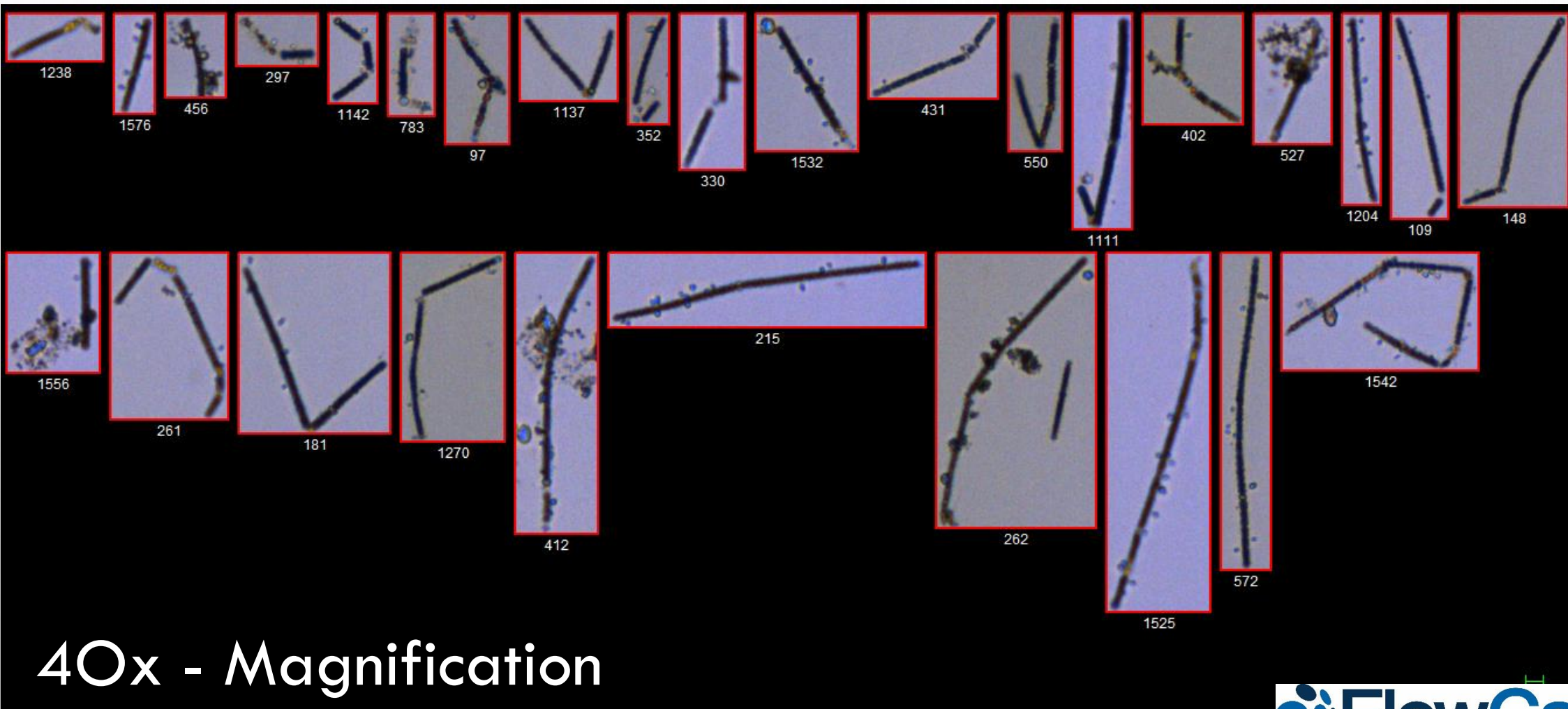
- ✓ Save Money on Cyanotoxin Tests
- ✓ Treat Only When Necessary
- ✓ Predict Taste and Odor Issues

August 23rd, 2013



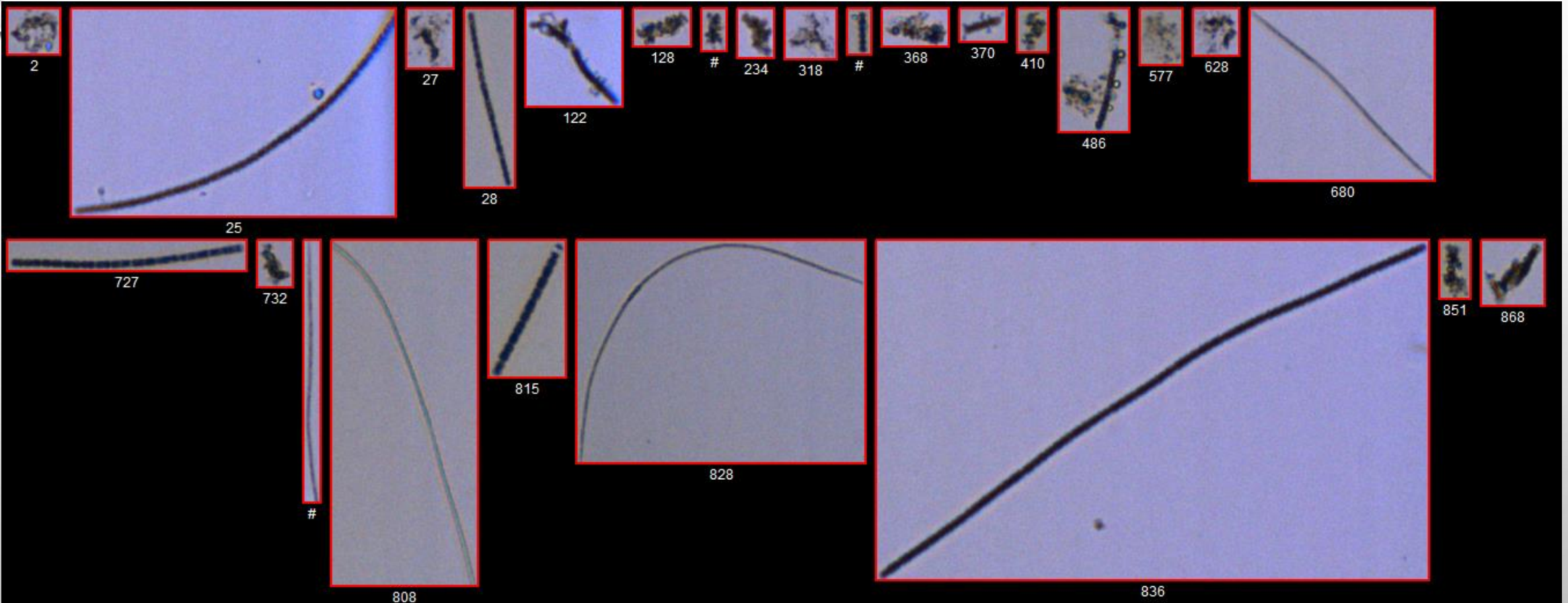
40x - Magnification

August 26th, 2013



40x - Magnification

August 28th, 2013



40x - Magnification



155



278



407



194

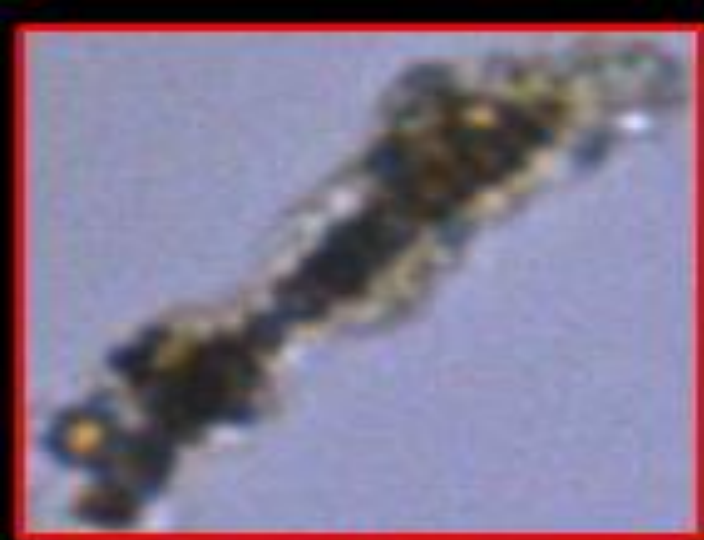


380



212

100x - Magnification



287



190



38



219

100x - Magnification

THANK YOU

www.fluidimaging.com

Michael Cohrs
Applications Engineer
Fluid Imaging Technologies
michael.cohrs@fluidimaging.com
(973) 650-6152