

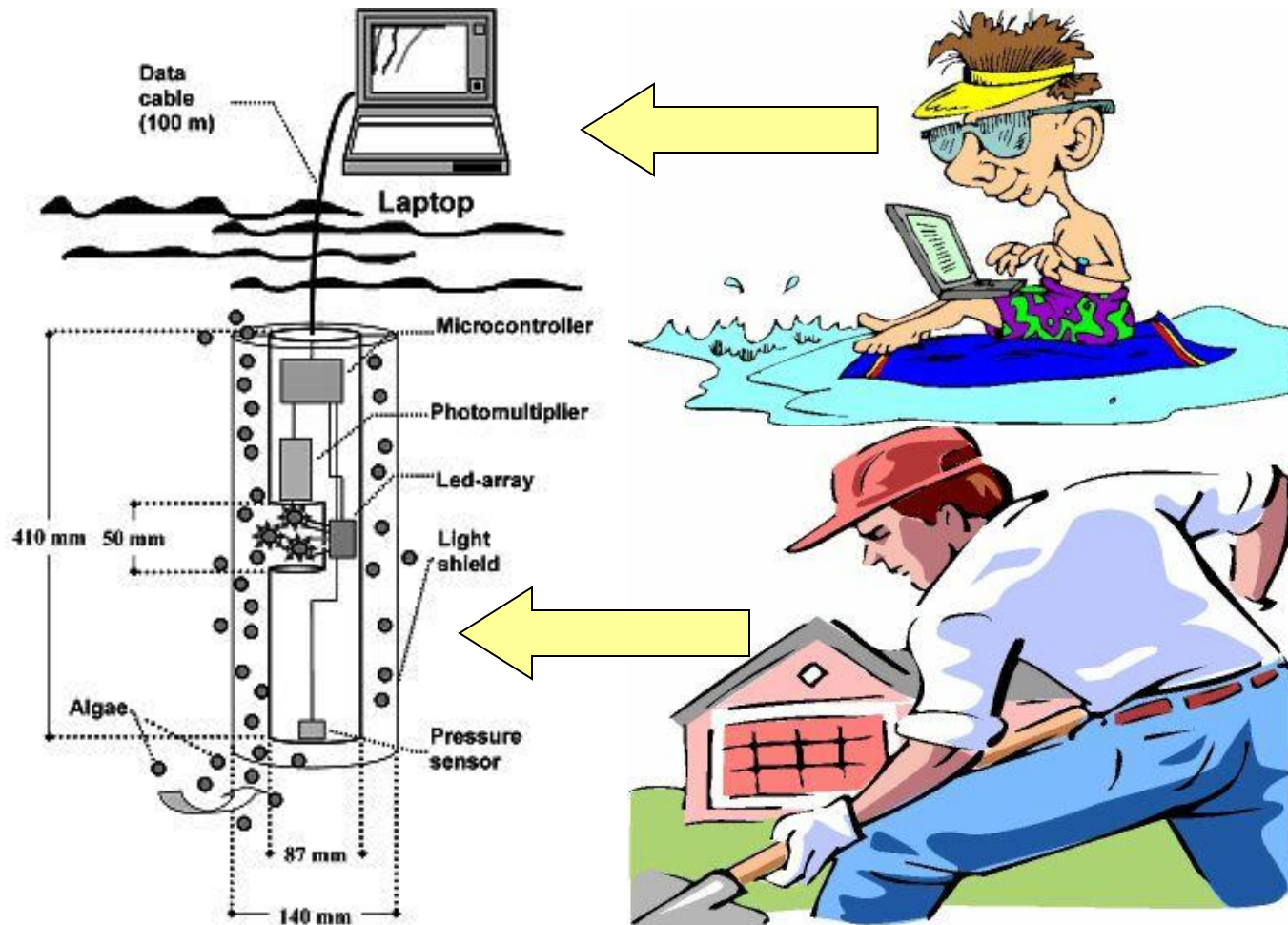
...a few notes on ACP
meeting: WATER, ENERGY

Blahos Marsalek

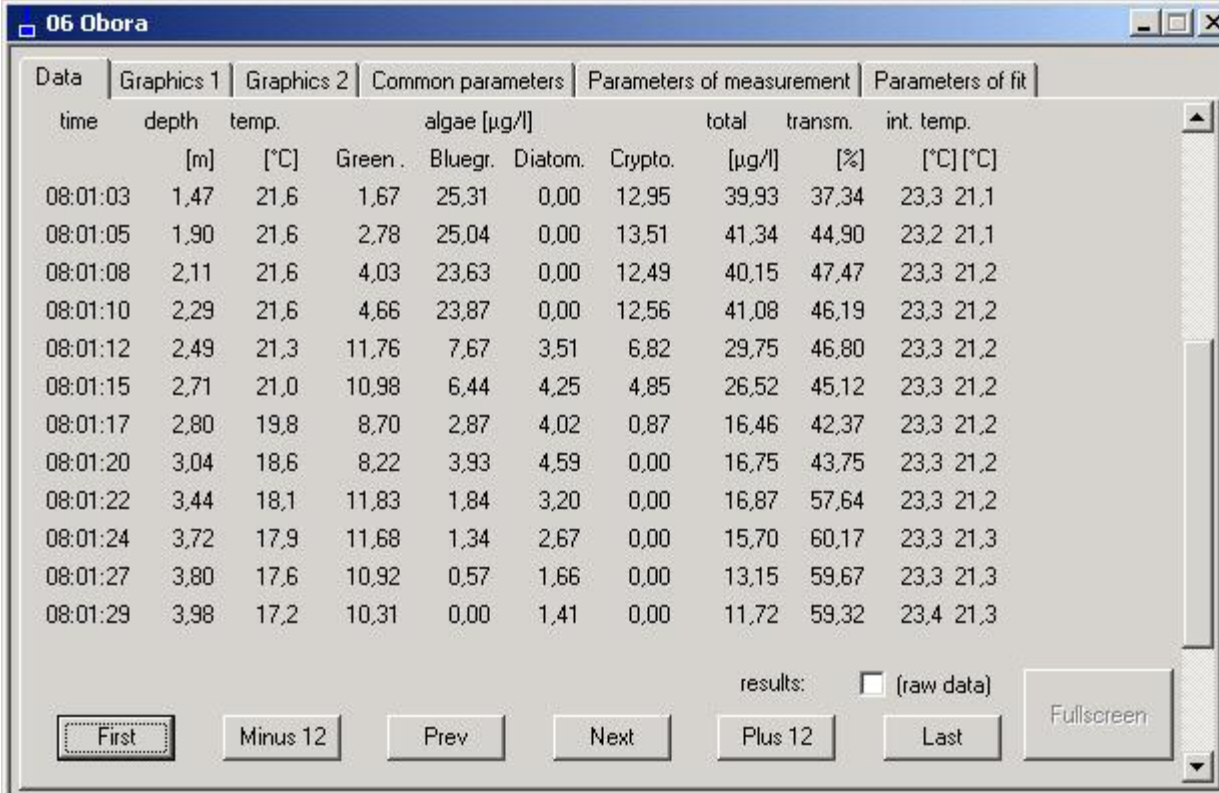
FluoroProbe



FluoroProbe



FluoroProbe

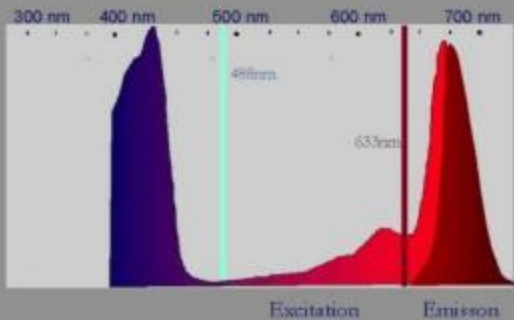


The screenshot shows the FluoroProbe software interface with a data table. The window title is "06 Obora". The interface includes a menu bar with "Data", "Graphics 1", "Graphics 2", "Common parameters", "Parameters of measurement", and "Parameters of fit". The data table has columns for time, depth, temperature, and various algae parameters. The data is as follows:

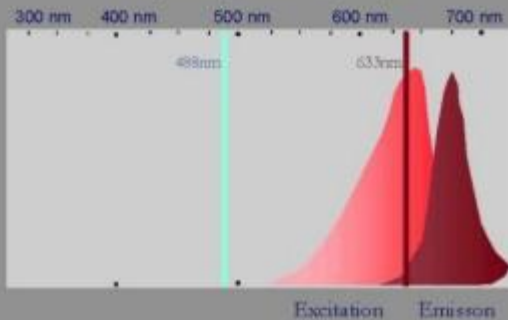
time	depth [m]	temp. [°C]	algae [µg/l]				total [µg/l]	transm. [%]	int. temp. [°C]	
			Green	Bluegr.	Diatom.	Crypto.			[°C]	[°C]
08:01:03	1,47	21,6	1,67	25,31	0,00	12,95	39,93	37,34	23,3	21,1
08:01:05	1,90	21,6	2,78	25,04	0,00	13,51	41,34	44,90	23,2	21,1
08:01:08	2,11	21,6	4,03	23,63	0,00	12,49	40,15	47,47	23,3	21,2
08:01:10	2,29	21,6	4,66	23,87	0,00	12,56	41,08	46,19	23,3	21,2
08:01:12	2,49	21,3	11,76	7,67	3,51	6,82	29,75	46,80	23,3	21,2
08:01:15	2,71	21,0	10,98	6,44	4,25	4,85	26,52	45,12	23,3	21,2
08:01:17	2,80	19,8	8,70	2,87	4,02	0,87	16,46	42,37	23,3	21,2
08:01:20	3,04	18,6	8,22	3,93	4,59	0,00	16,75	43,75	23,3	21,2
08:01:22	3,44	18,1	11,83	1,84	3,20	0,00	16,87	57,64	23,3	21,2
08:01:24	3,72	17,9	11,68	1,34	2,67	0,00	15,70	60,17	23,3	21,3
08:01:27	3,80	17,6	10,92	0,57	1,66	0,00	13,15	59,67	23,3	21,3
08:01:29	3,98	17,2	10,31	0,00	1,41	0,00	11,72	59,32	23,4	21,3

At the bottom of the window, there is a "results:" label with an unchecked checkbox for "(raw data)". Below this are several navigation buttons: "First", "Minus 12", "Prev", "Next", "Plus 12", "Last", and "Fullscreen".

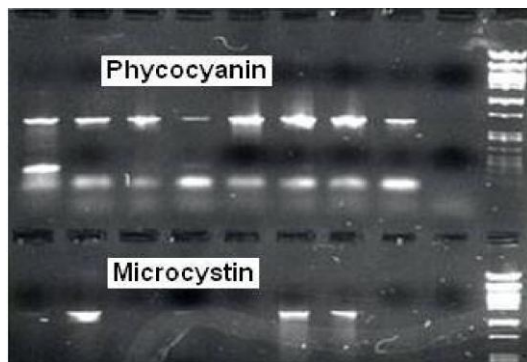
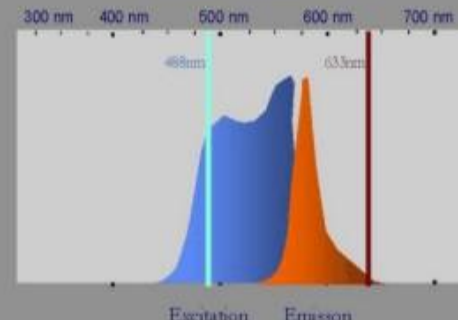
Chlorophyll a



Phycocyanin (PC)



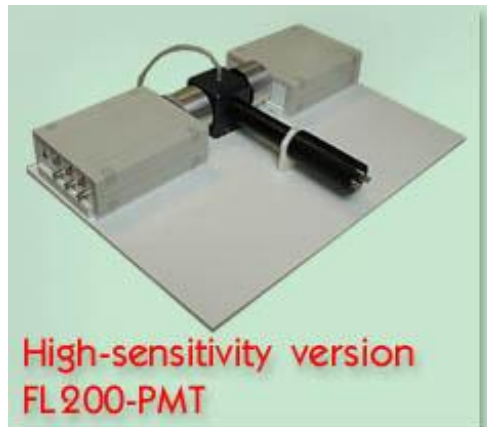
Phycocerythrin (PE)



All samples positive in FETAX



Raw waters



Treated waters
„on-line“ – continual
and automatic!!!

ALGAL ONLINE MONITOR

PARAMETERS

- Quantification of algal growth rate, (chl-a, $\mu\text{g/L}$)
- algal health and physiological status

PRINCIPLE

- fluorescence chl-a
- Induction of Kautsky effect
- chl-a

- Continual measurement
- High sensitivity
- Data transfer by GSM
- **ROBUST FOR HRAP**



WASTE WATER TREATMENT???

- Fluctuation of water contents
 - Toxic compounds
 - Limiting Nutrients
- We offer biotest for
 - detection of limiting nutrients
 - Toxic compounds
 - Optimal algal strains

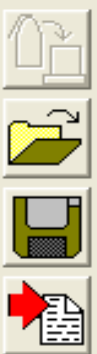


Detektion of algal growth rate in waste water treatment



- Biomonitoring-fluorescence parameters
- On-line growth rate and algal physiology monitoring
- Expensive, but make you sure, if there is no problem – remote sensing – on line data

C:\Documents and Settings\Zlatica Novotná\Dokumenty\ADM\2009_ADM\Mostis

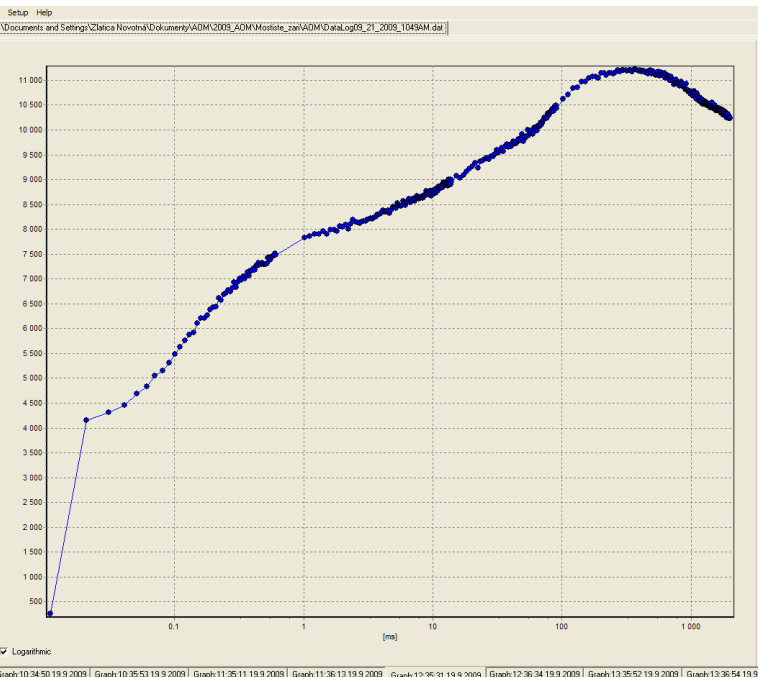
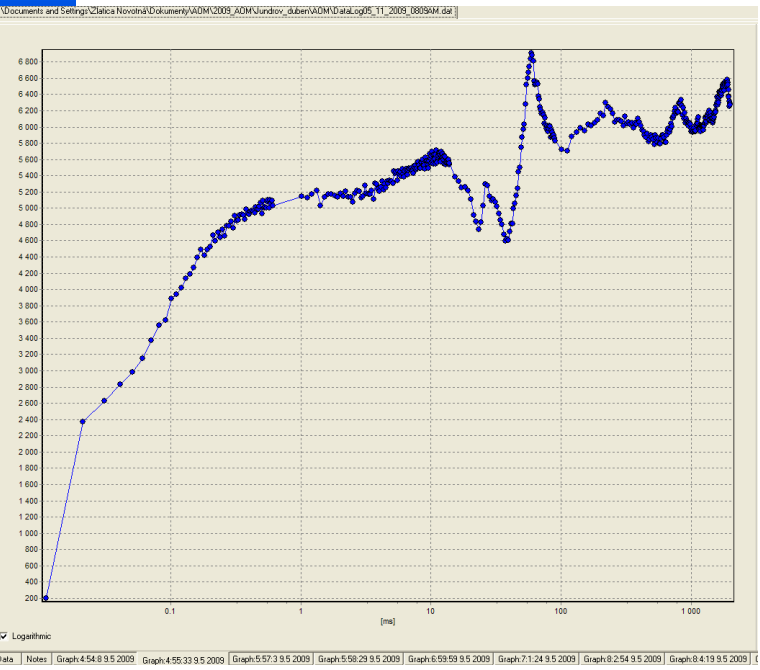


Index	1	2	3			
Time	10:34:50 19.9 2009	10:35:53 19.9 2009	11:35:11 19.9			
ID	QJIP-455nm	QJIP-590nm	QJIP-455nm			
Value	Bckg	209	Bckg	204	Bckg	229
	Fo	4427	Fo	1008	Fo	4446
	Fj	8893	Fj	1739	Fj	8255
	Fi	11156	Fi	2196	Fi	9890
	Fm	13330	Fm	3086	Fm	1178
	Fv	8903	Fv	2078	Fv	7338
	Vj	0.502	Vj	0.352	Vj	0.511
	Vi	0.756	Vi	0.572	Vi	0.741
	Fm/Fo	3.011	Fm/Fo	3.062	Fm/Fo	2.651
	Fv/Fo	2.011	Fv/Fo	2.062	Fv/Fo	1.650
	Fv/Fm	0.668	Fv/Fm	0.673	Fv/Fm	0.621
	Mo	1.375	Mo	0.375	Mo	1.451
	Area	4048044	Area	1013986	Area	4640
	Fix Area	12929432	Fix Area	2835346	Fix Area	1143
	Sm	454.683	Sm	487.962	Sm	632.1
	Ss	0.365	Ss	0.937	Ss	0.351
	N	1246.153	N	520.671	N	1767
	Phi_Po	0.668	Phi_Po	0.673	Phi_Po	0.621
	Psi_o	0.498	Psi_o	0.648	Psi_o	0.481
	Phi_Eo	0.333	Phi_Eo	0.436	Phi_Eo	0.291
Phi_Do	0.332	Phi_Do	0.327	Phi_Do	0.371	
Phi_Pav	944.214	Phi_Pav	908.620	Phi_Pav	956.1	

Description



Data Notes Graph:10:34:50 19.9 2009 Graph:10:35:53 19.9 2009 Graph



Cyanobacterial biomass separator

Up to 40t/ha, 3-4xtimes a year!!!
AND CLEANED DRINKING WATER

