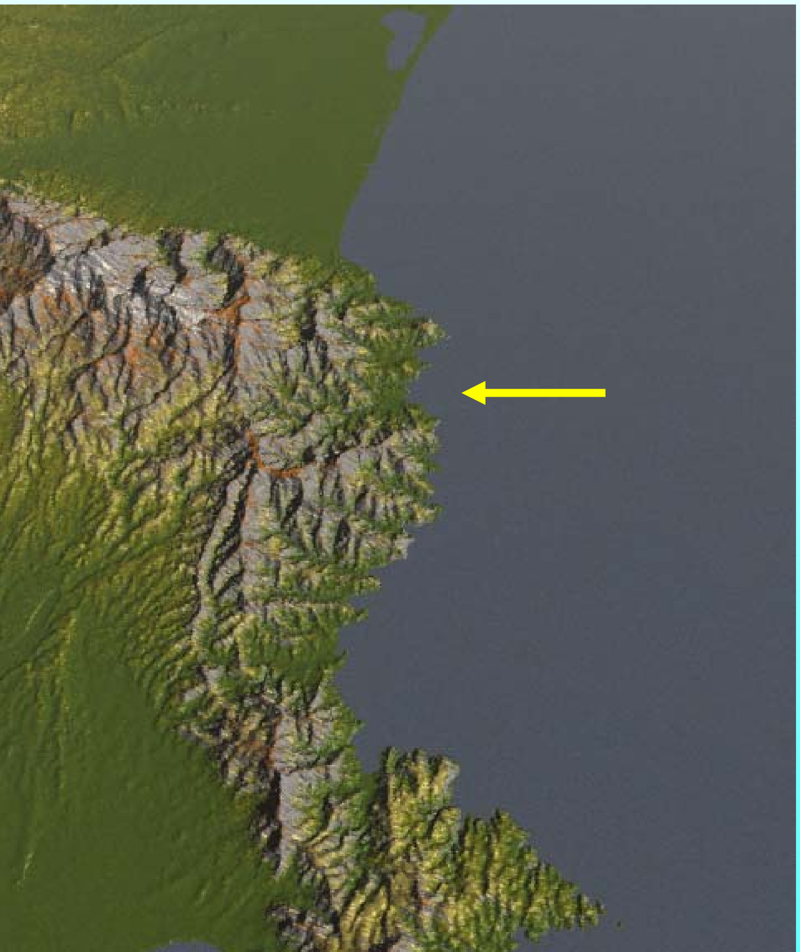
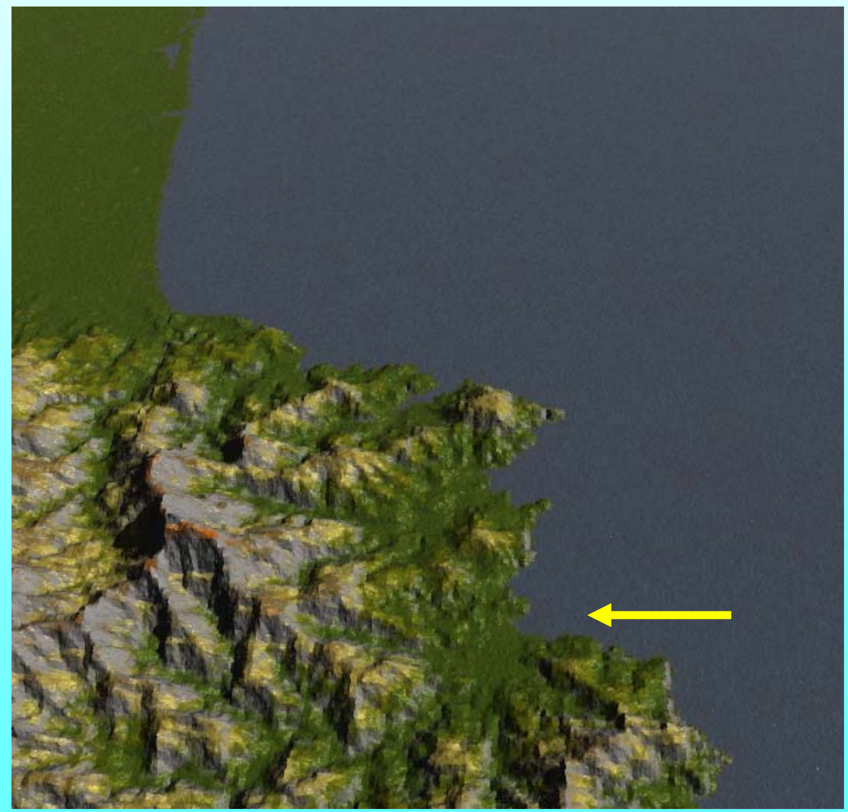
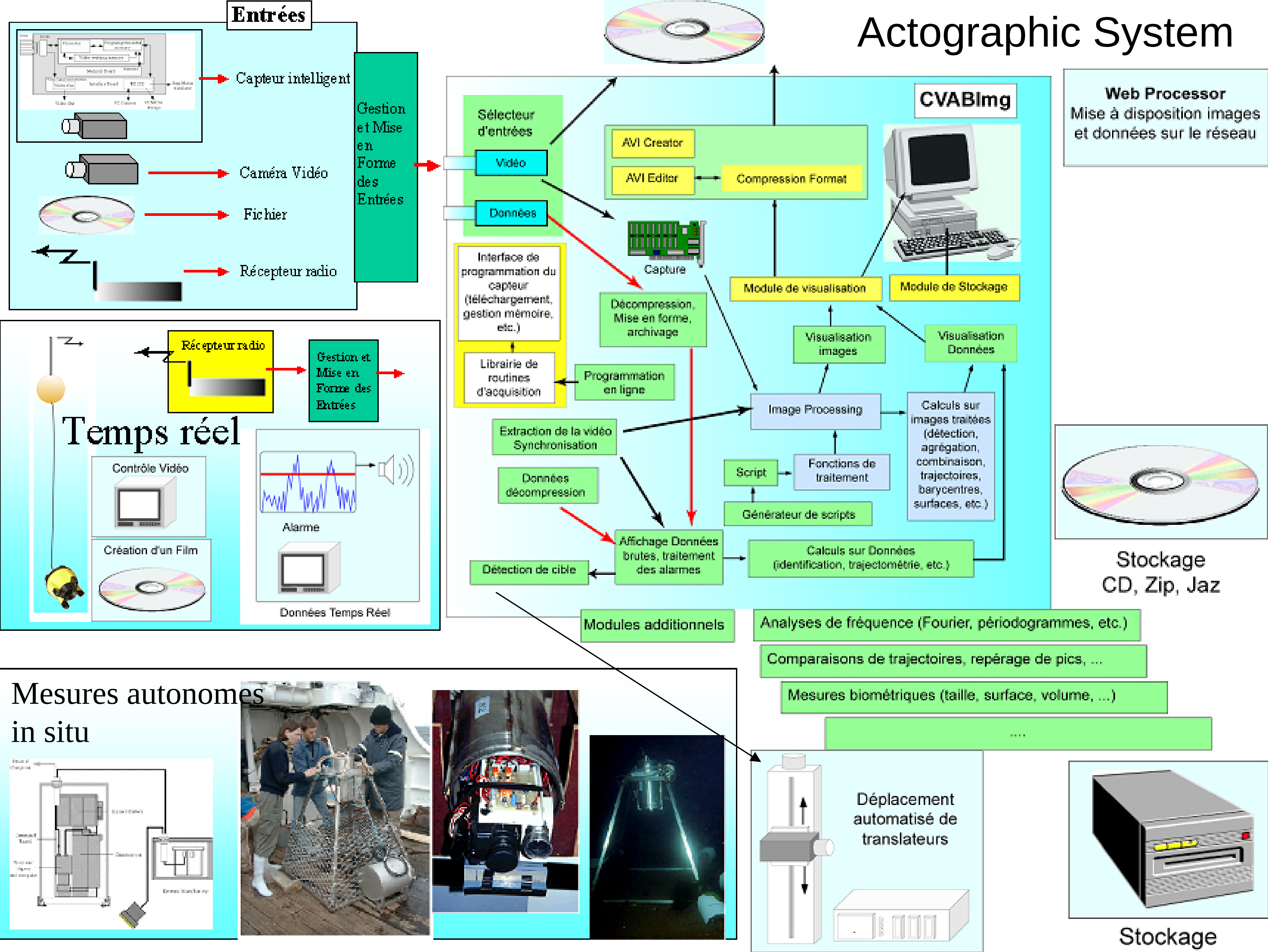
Laboratoire d'Océanographie Biologique

UMR 7621

Banyuls sur mer

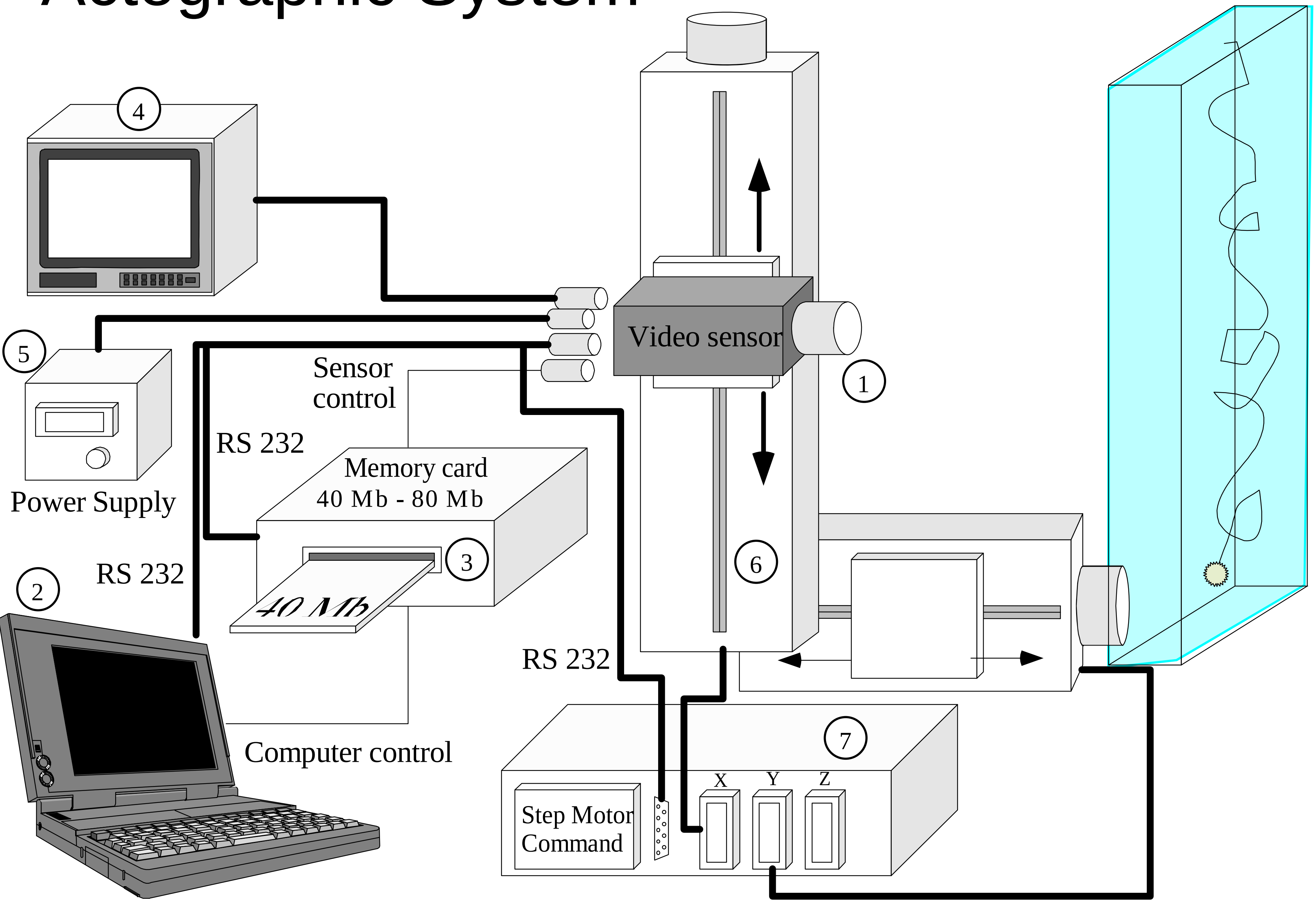




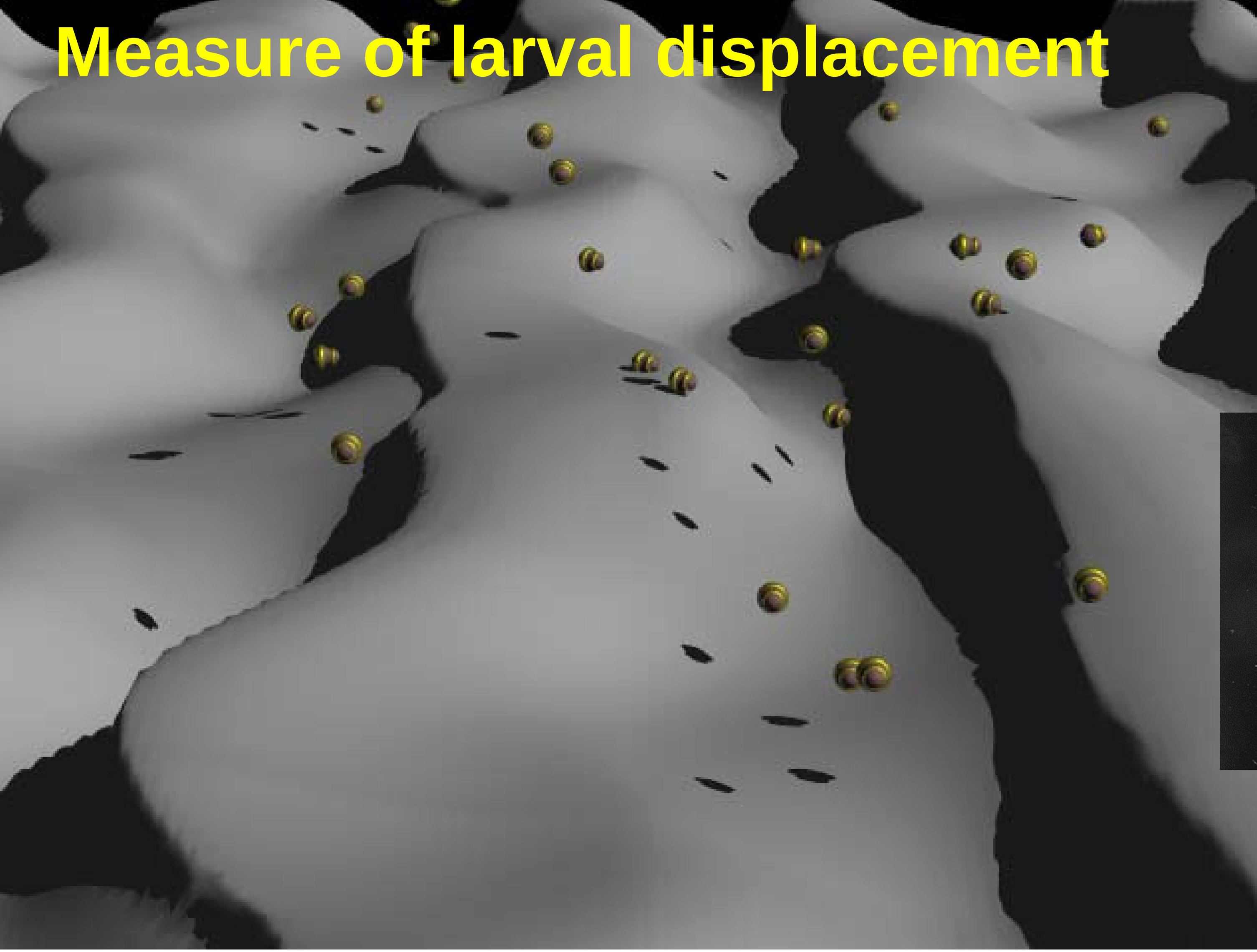


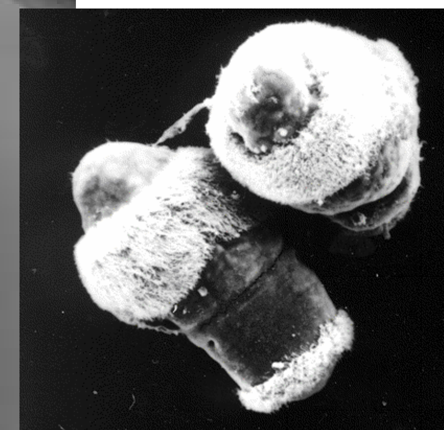
Actographic System
Entrées
Capteur intelligent
Caméra Vidéo
Fichier
Récepteur radio
Gestion et Mise en Forme des Entrées
Sélecteur d'entrées
Vidéo
Données
CVABImg
AVI Creator
AVI Editor
Compression Format
Web Processor
Mise à disposition images et données sur le réseau
Interface de programmation du capteur (téléchargement, gestion mémoire, etc.)
Librairie de routines d'acquisition
Programmation en ligne
Capture
Décompression, Mise en forme, archivage
Module de visualisation
Module de Stockage
Visualisation images
Visualisation Données
Image Processing
Calculs sur images traitées (détection, agrégation, combinaison, trajectoires, barycentres, surfaces, etc.)
Extraction de la vidéo Synchronisation
Données décompression
Script
Fonctions de traitement
Générateur de scripts
Affichage Données brutes, traitement des alarmes
Calculs sur Données (identification, trajectométrie, etc.)
Détection de cible
Stockage CD, Zip, Jaz
Modules additionnels
Analyses de fréquence (Fourier, périodogrammes, etc.)
Comparaisons de trajectoires, repérage de pics, ...
Mesures biométriques (taille, surface, volume, ...)
....
Récepteur radio
Gestion et Mise en Forme des Entrées
Temps réel
Contrôle Vidéo
Création d'un Film
Alarme
Données Temps Réel
Mesures autonomes in situ
Déplacement automatisé de translateurs
Stockage

Actographic System

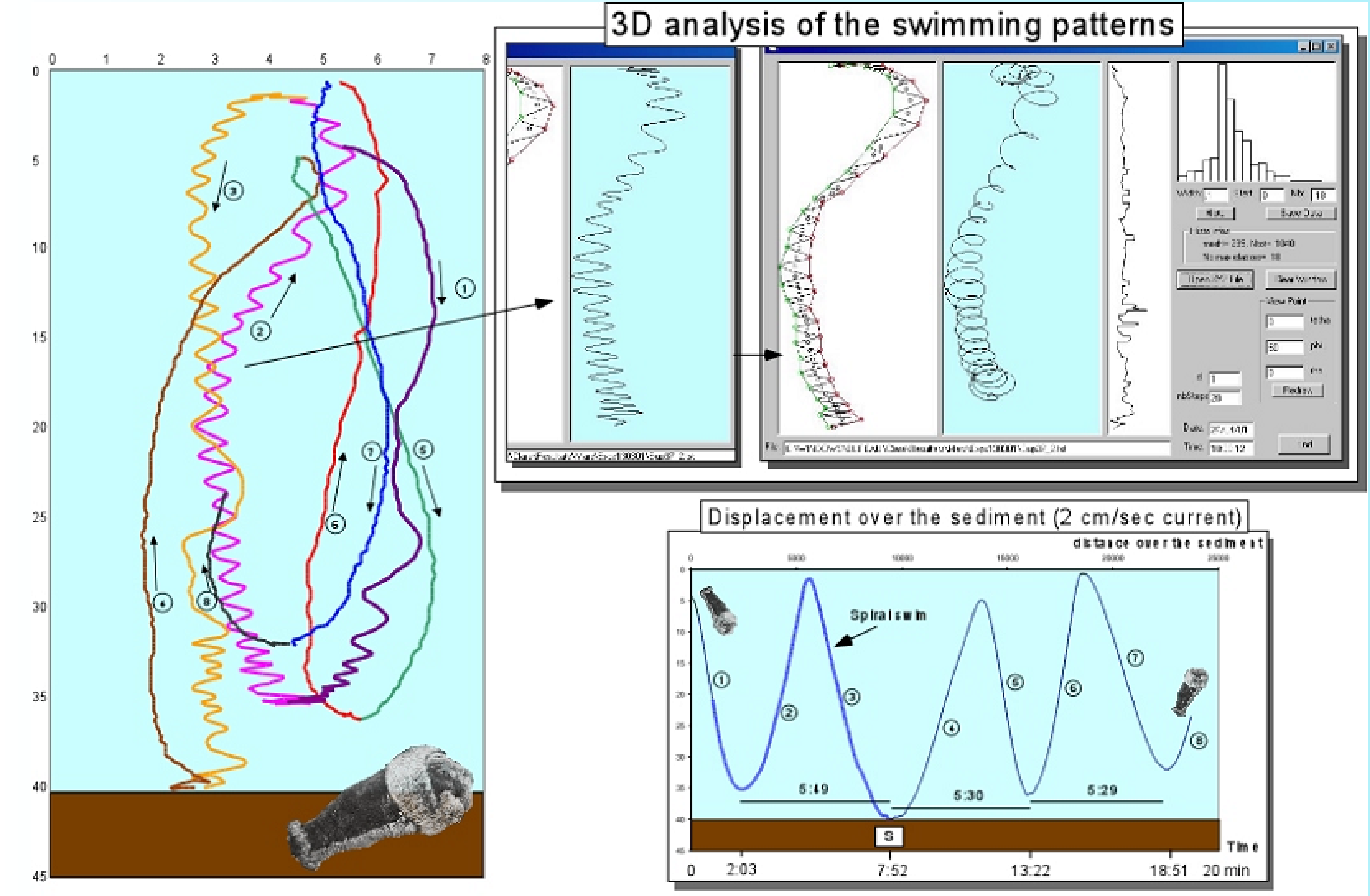


Measure of larval displacement



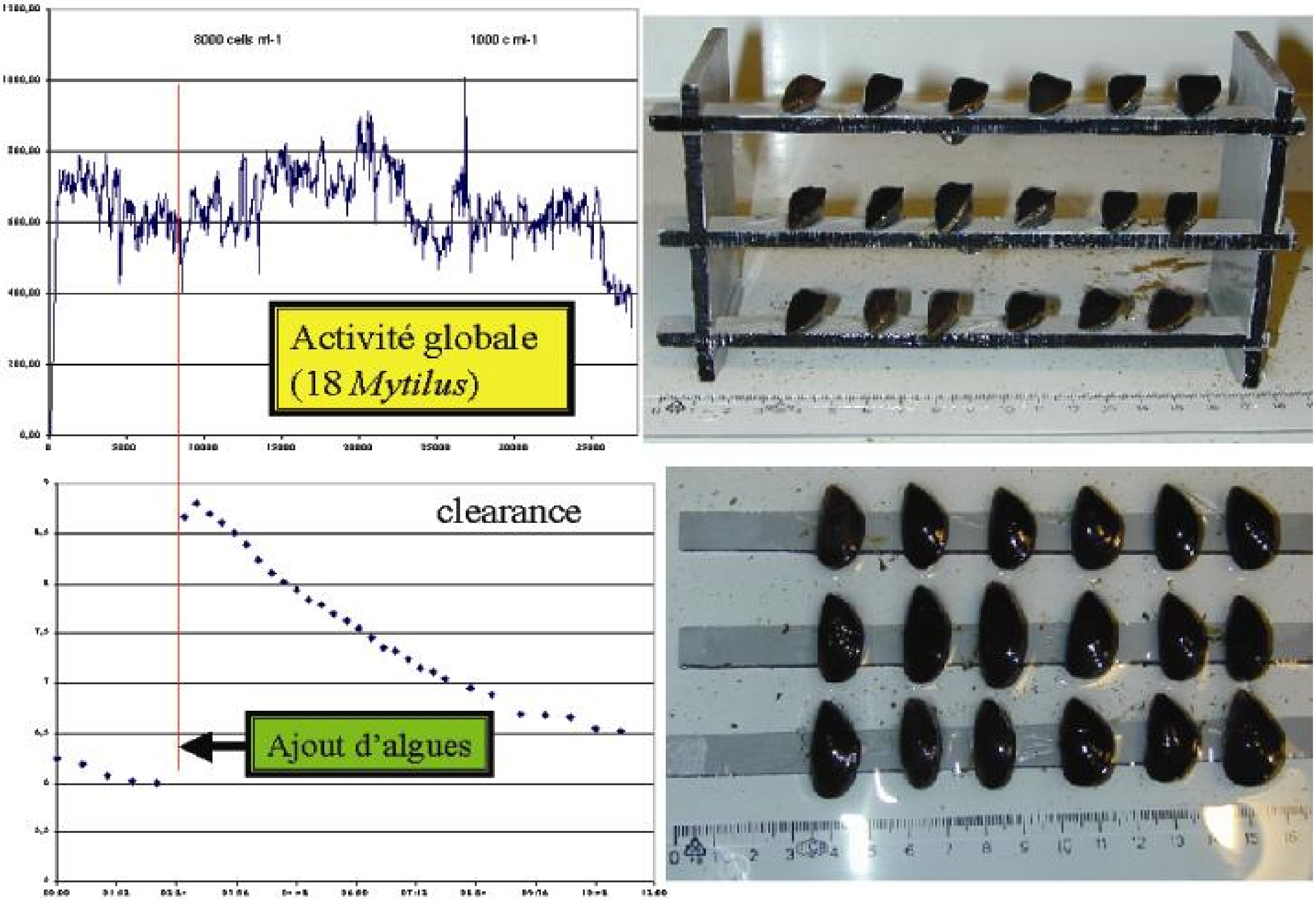


Microscale : physics-biology interactions during planktonic larval emission, dispersal and settling

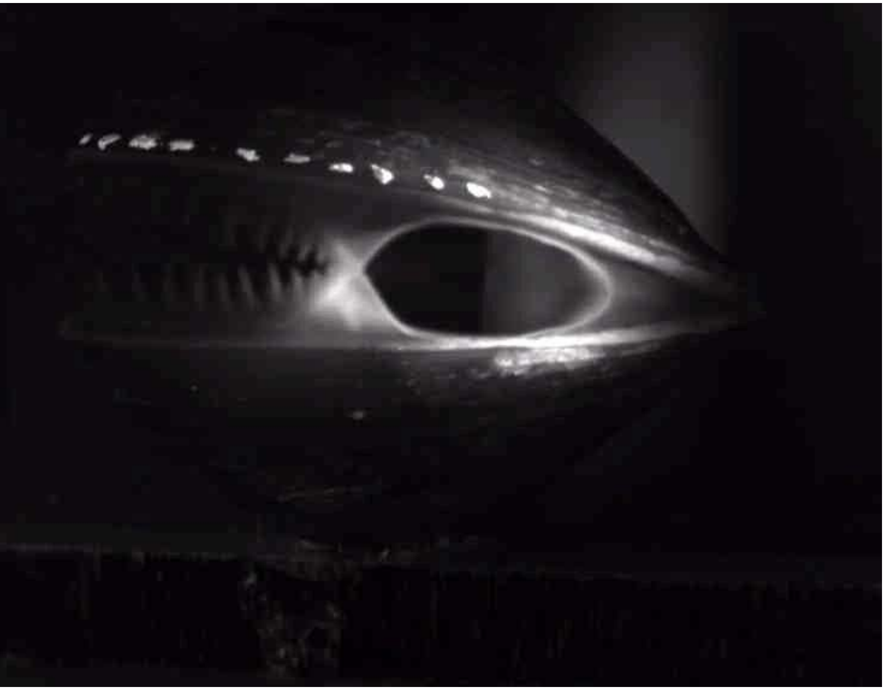


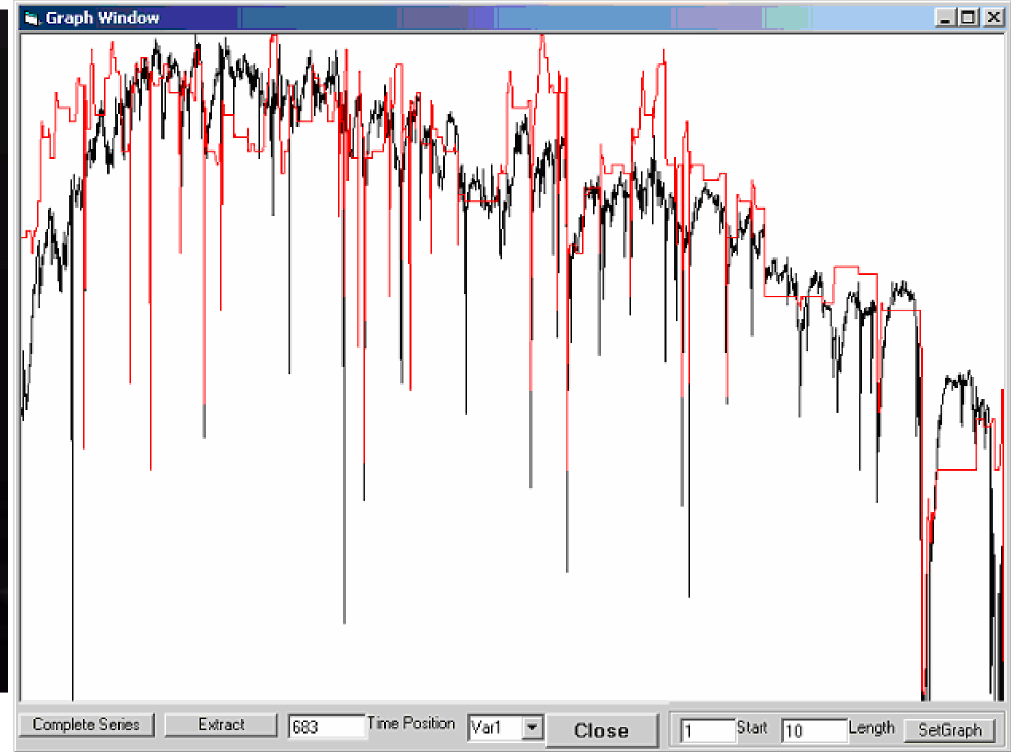
20 min record of a swimming larva of *Eupolymnia nebulosa*.

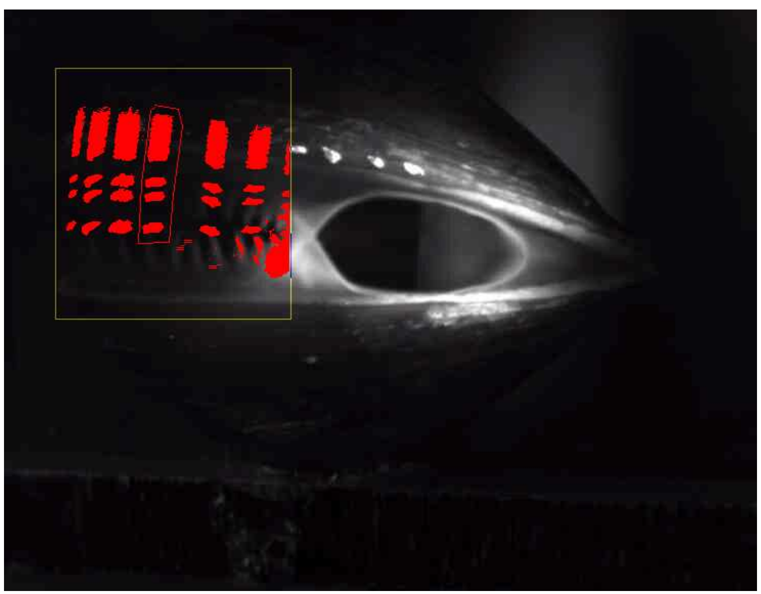
Study of Invertebrates swimming behaviour (larvae and planktonic individuals)

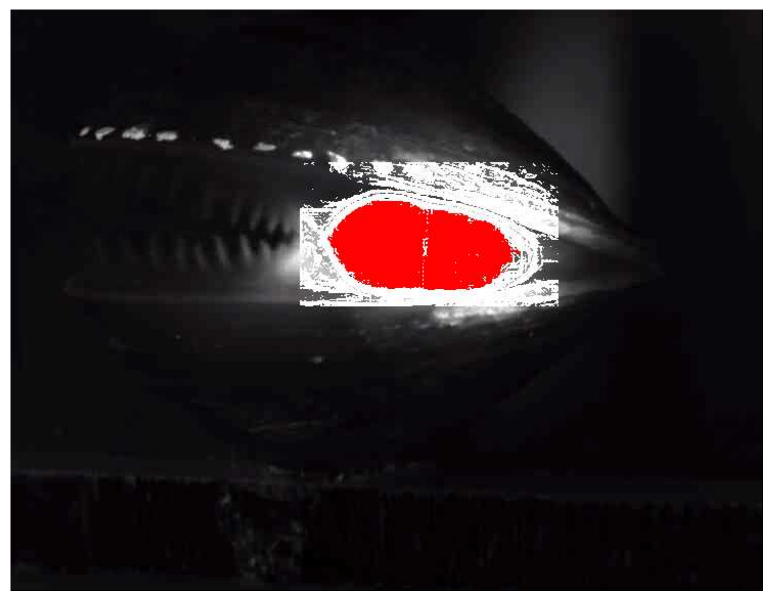


Record of clearance rate in *Mytilus edulis* (Gullmars fjord, Sweden).
Individual or pooled activity is available



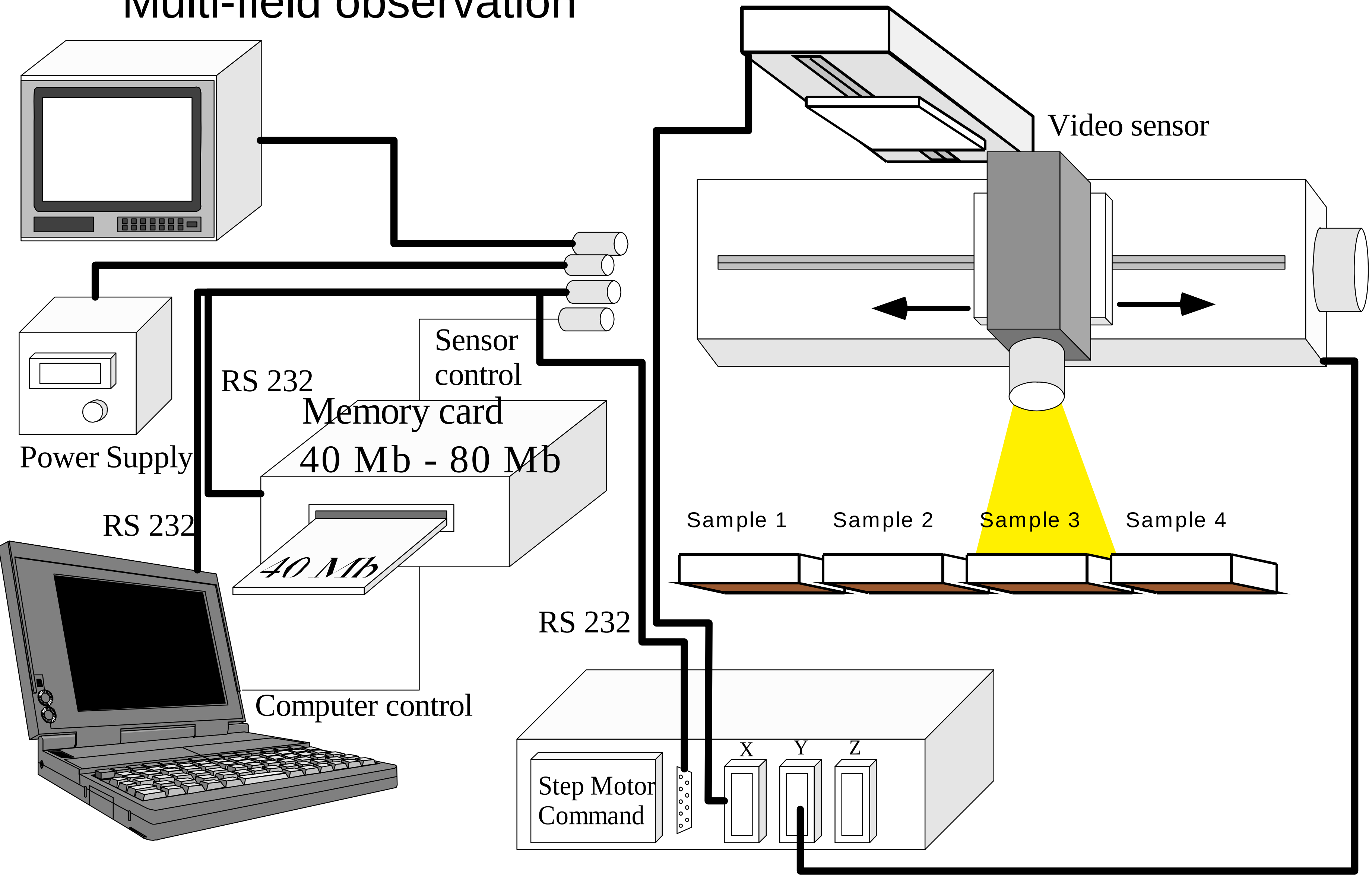

Graph Window
Complete Series
Extract
683
Time Position
Var1
Close
1
Start
10
Length
SetGraph



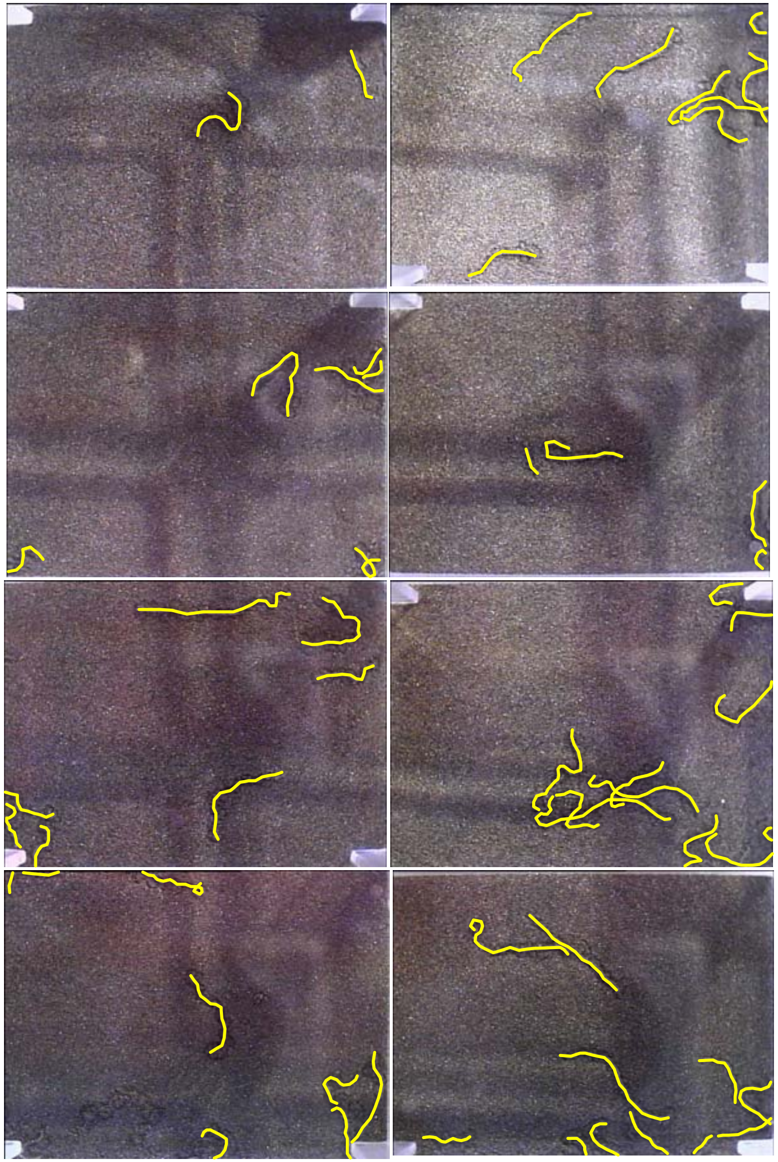


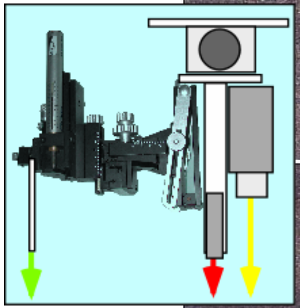
Actographic System

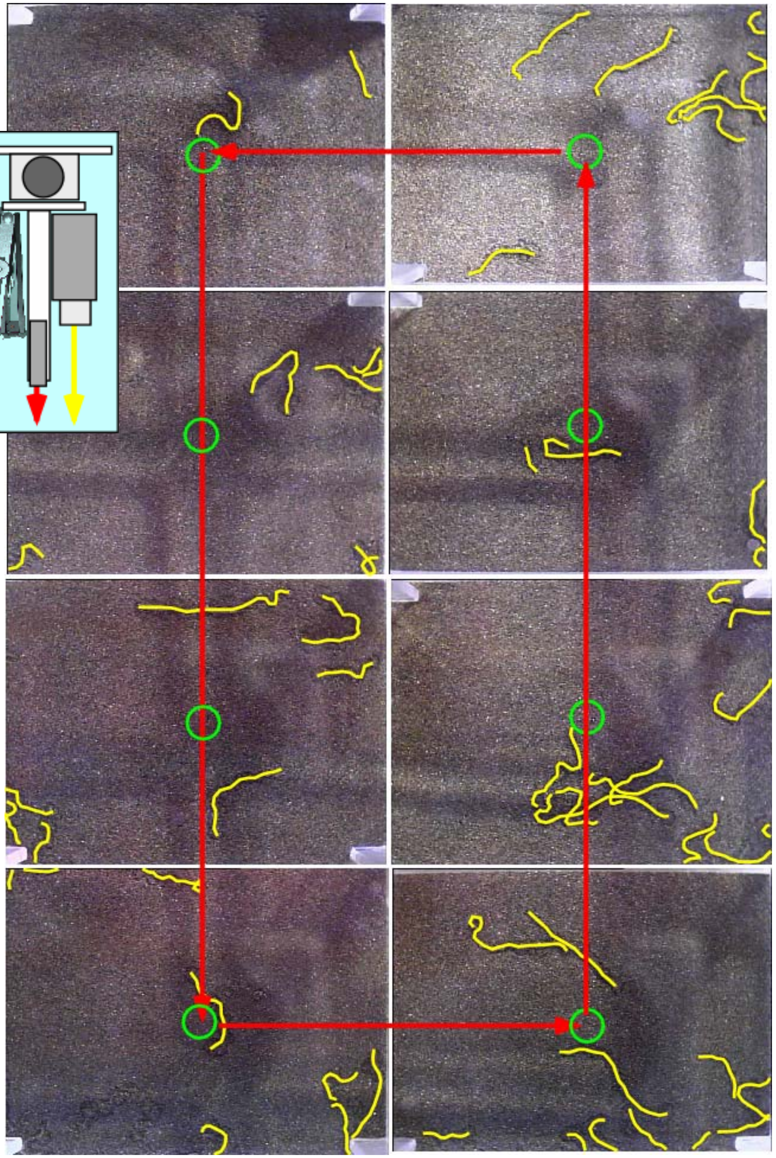
Multi-field observation

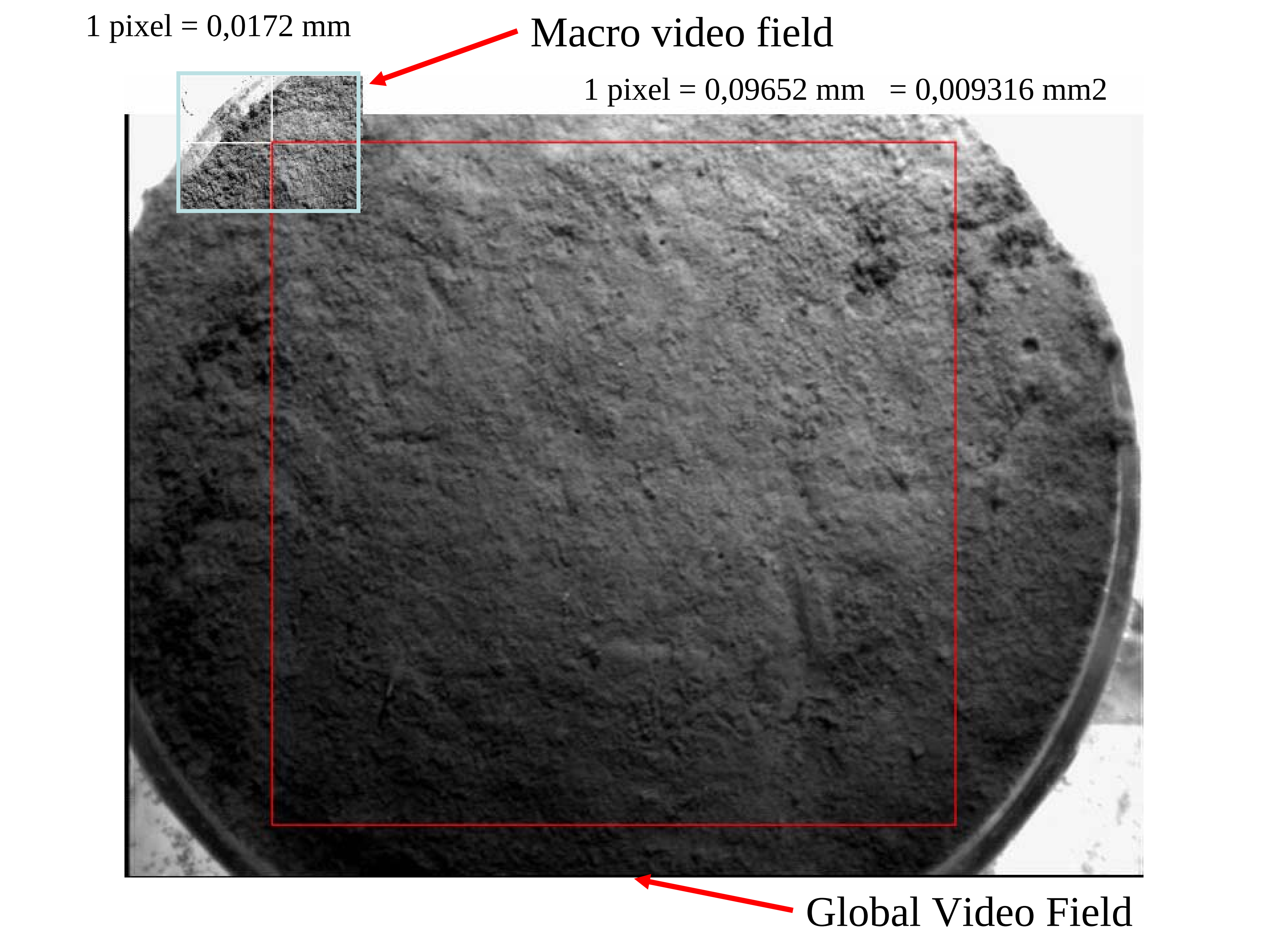


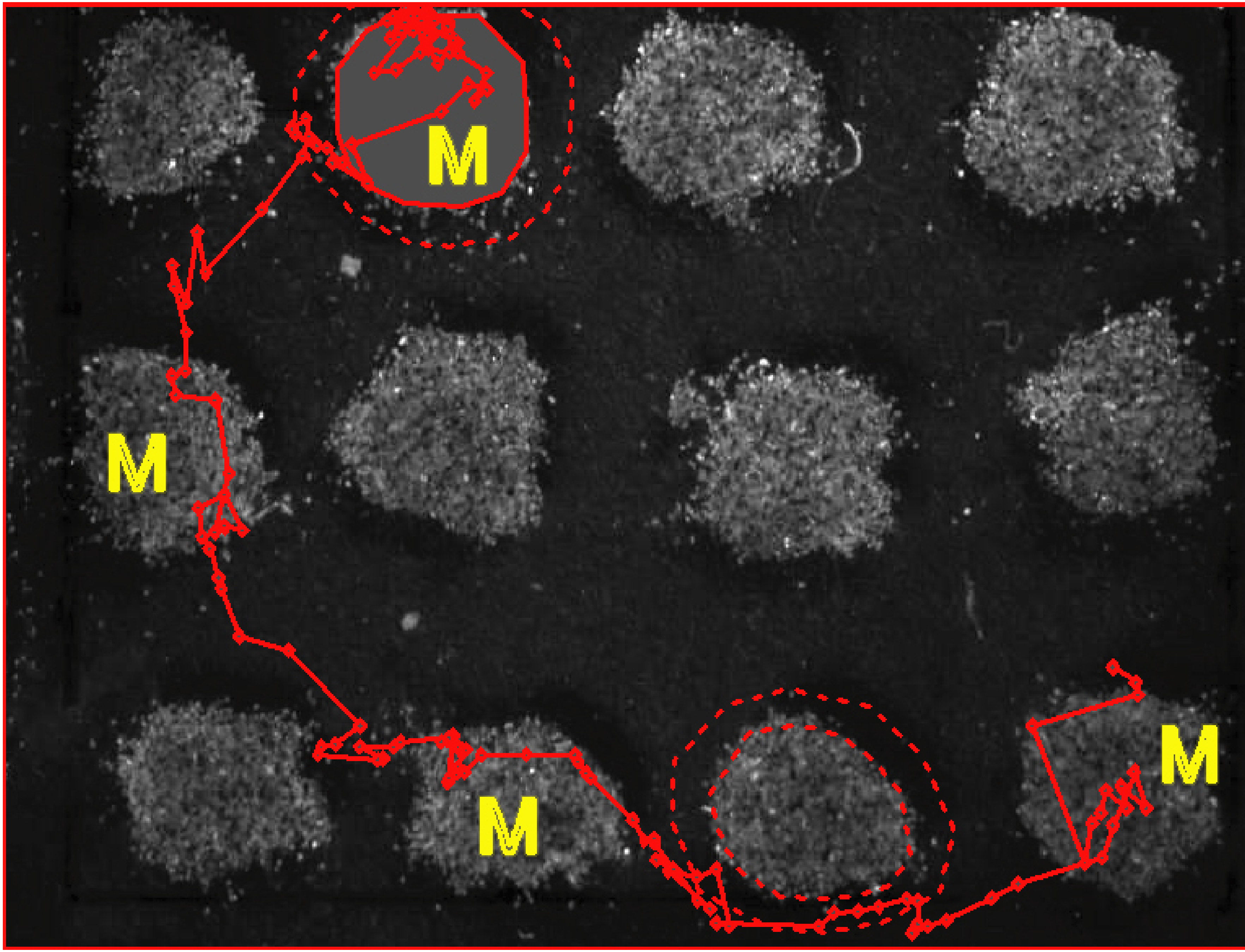
Analysis of early growth and intra- and inter-specific relations in Eupolymnia







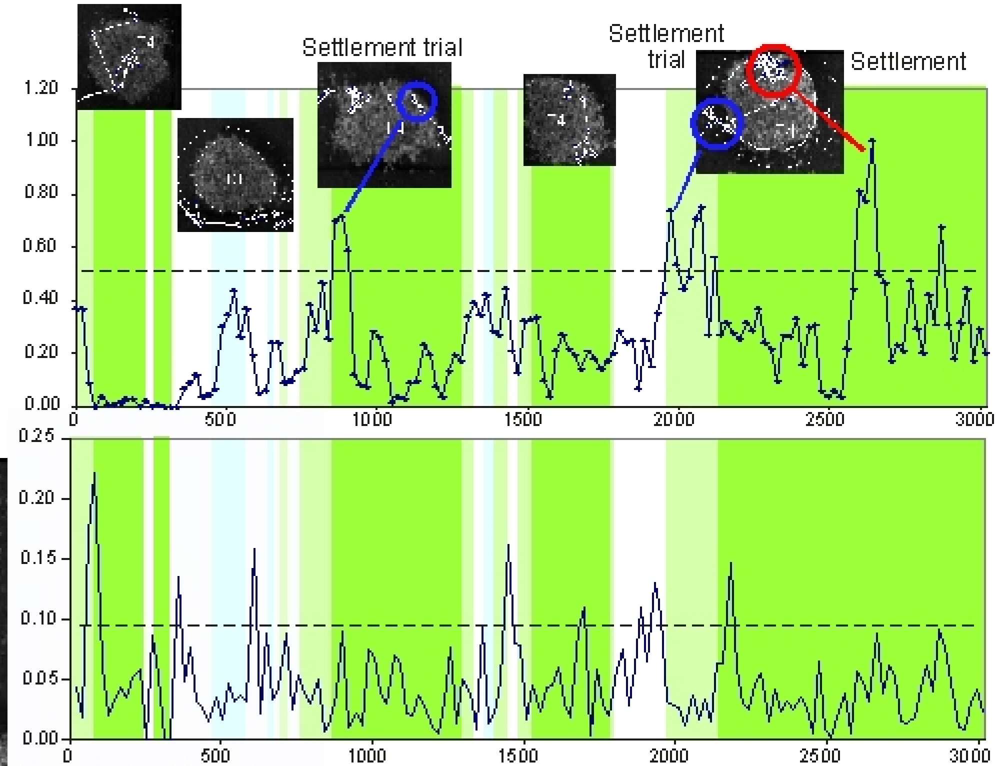

1 pixel = 0,0172 mm
Macro video field
1 pixel = 0,09652 mm = 0,009316 mm2
Global Video Field

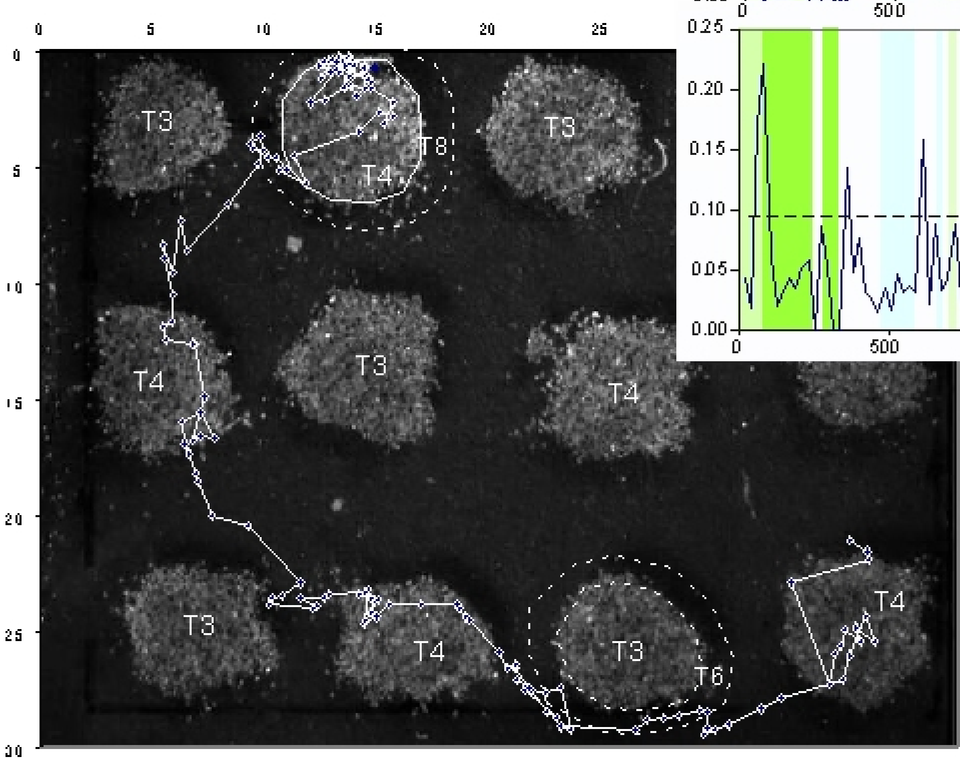

M
M
M
M

Settlement behaviour in *Eupolymnia nebulosa*

10 day larva track analysis

Conditions : patches of sediment with/without marking, no sediment everywhere else

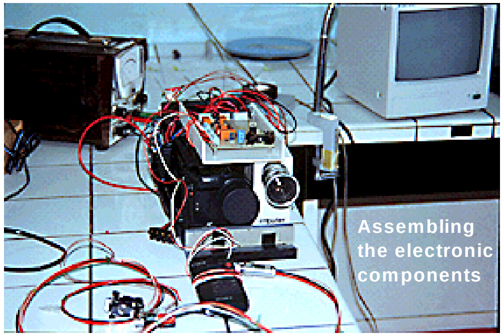




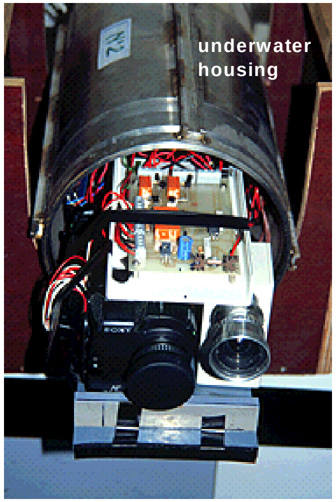
blue : presence in detection area of non marked area
light green : presence in detection area of marked sediment
green : presence inside marked sediment

T3 : sediment from the station
T4 : same sediment marked by adult
T6 : detection area, non marked sediment
T8 : detection area, marked sediment

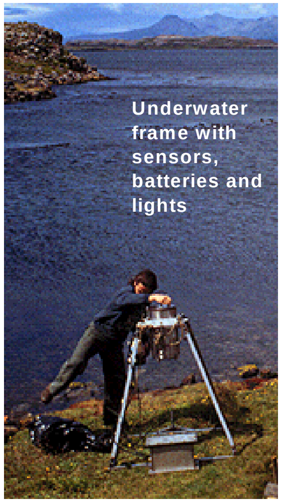
In situ



Assembling the electronic components

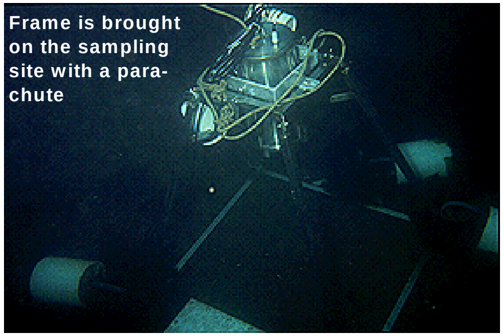


underwater housing

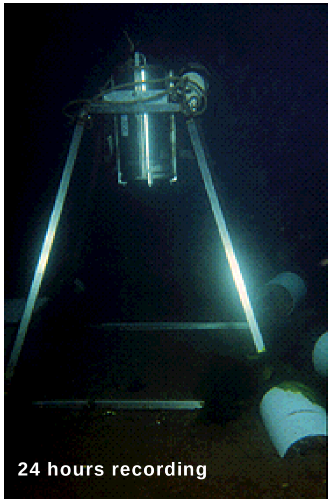


Underwater frame with sensors, batteries and lights

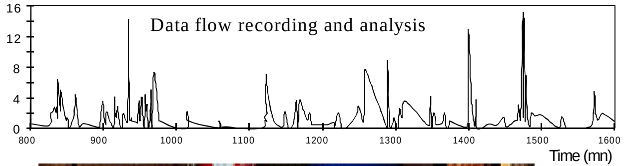
Automated recordings of benthic activity with a CVAB (Benthic Activity Video Sensor)

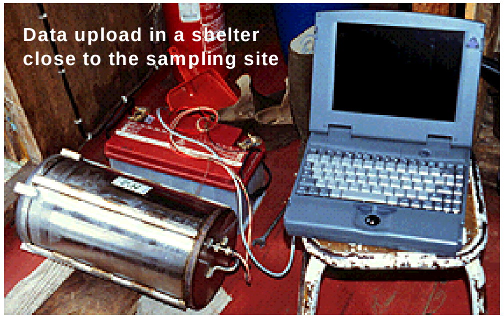


Frame is brought on the sampling site with a para-chute



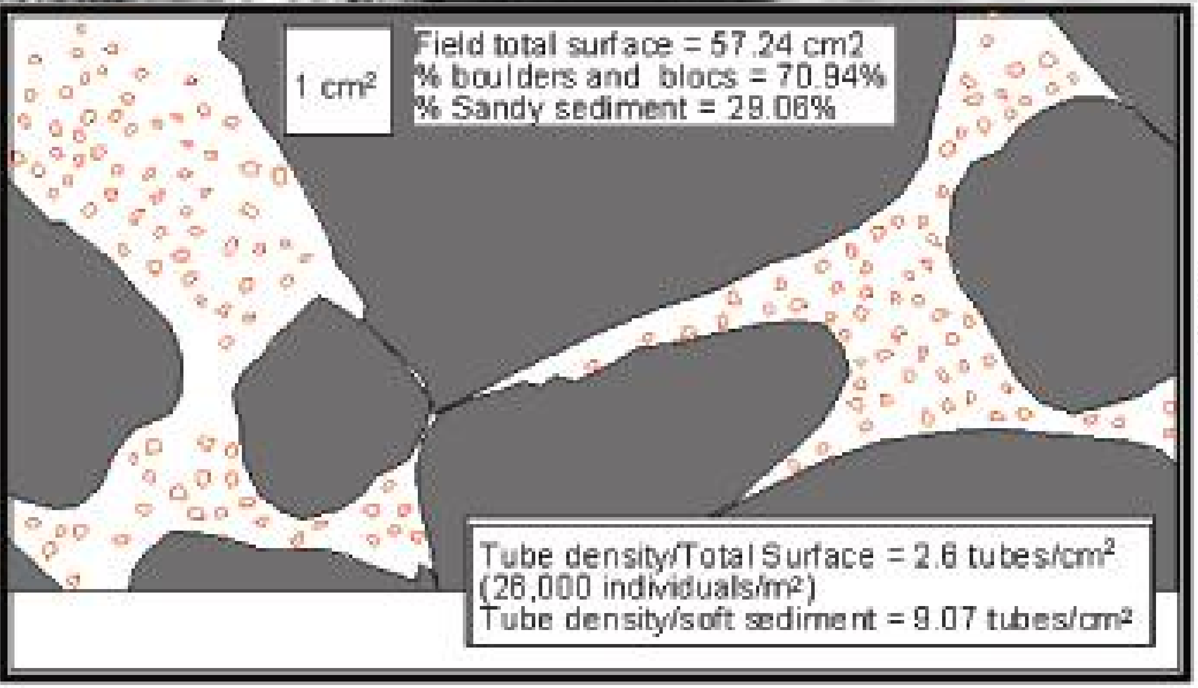
24 hours recording

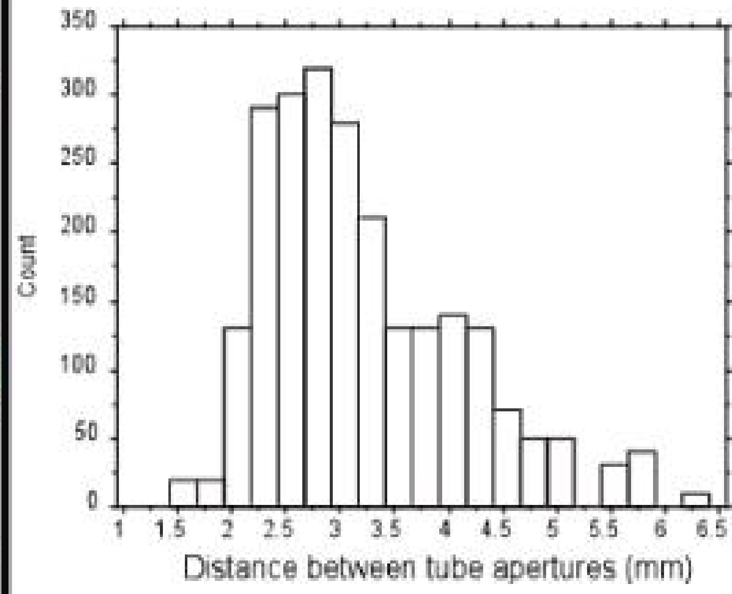




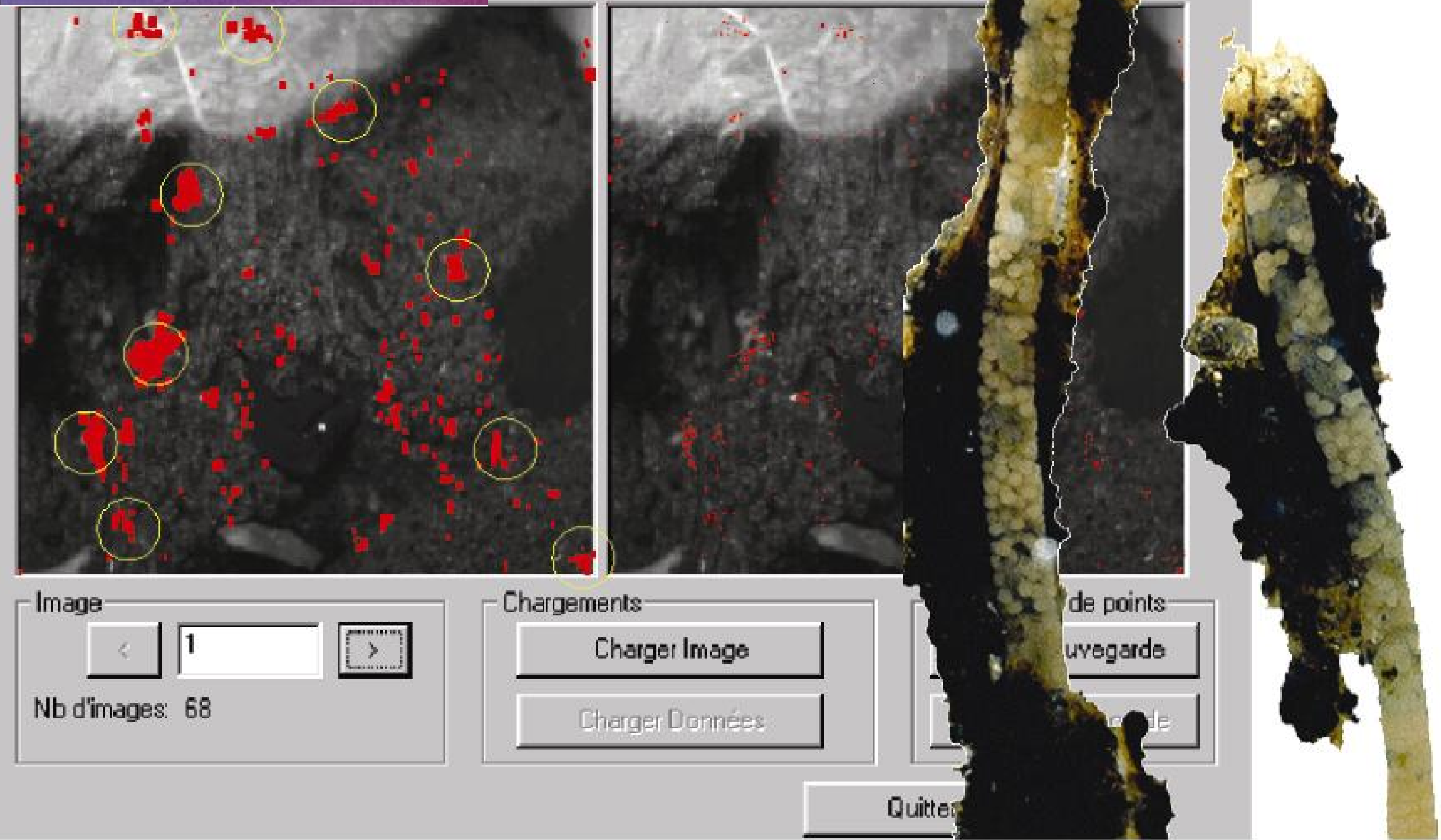
Data upload in a shelter close to the sampling site

Counting and measure of tube opening positions (*Boccardia polybranchia*, Kerguelen Province Subantarctique)

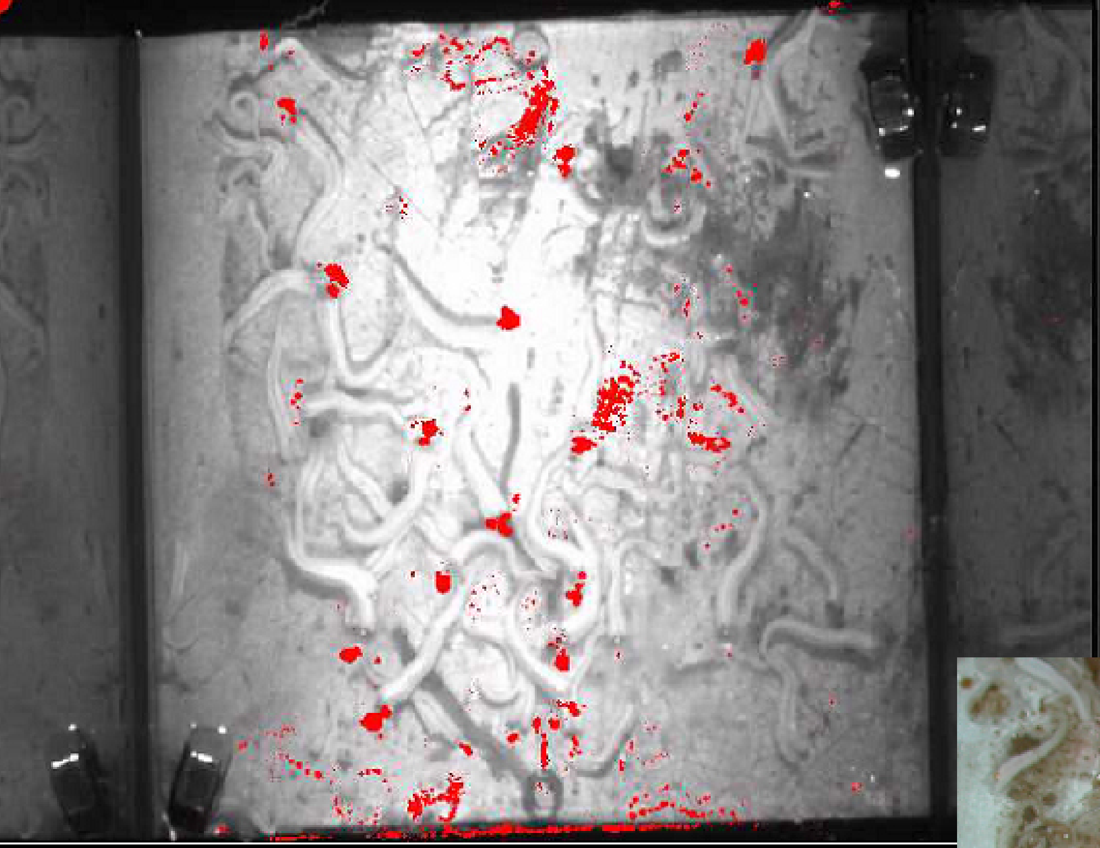




In situ identification of spawning activity inside sediment: spawning of *Boccardia polybranchia* in Kerguelen (TAAF) with measurement of associated pseudo-copulation events

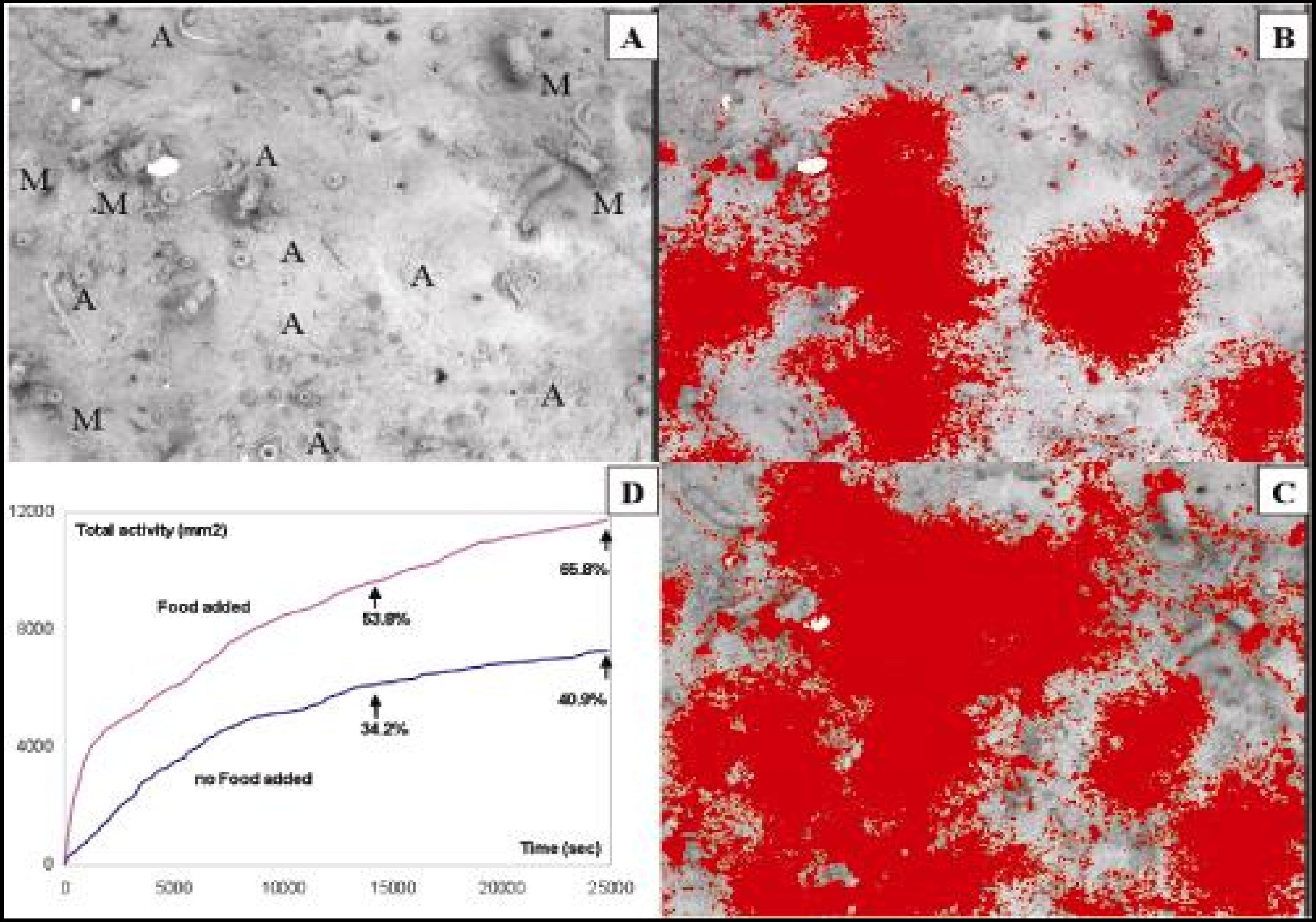


Measurement of activity in early settlers

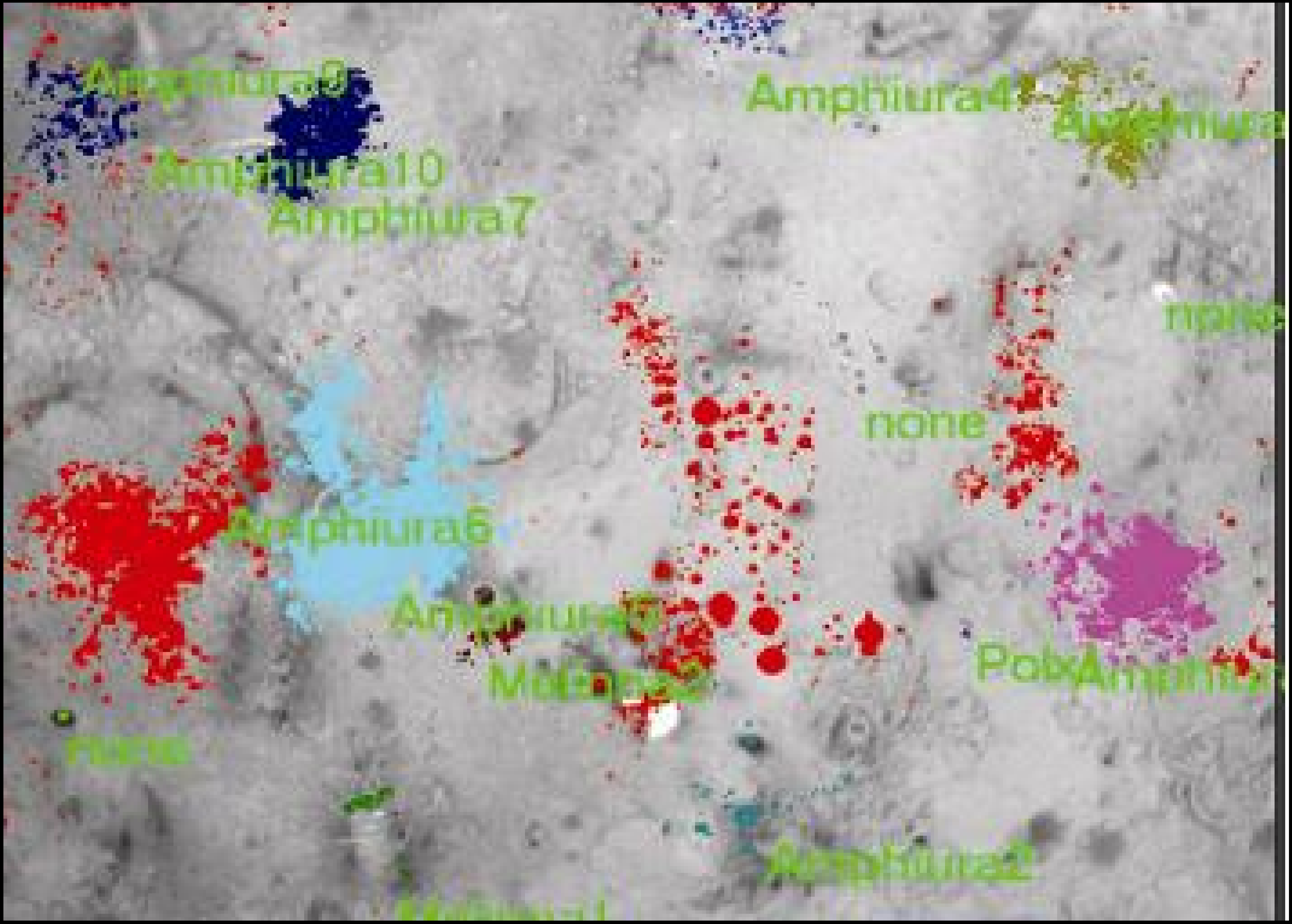


Settling survey on plates covered with different anti-fouling substances

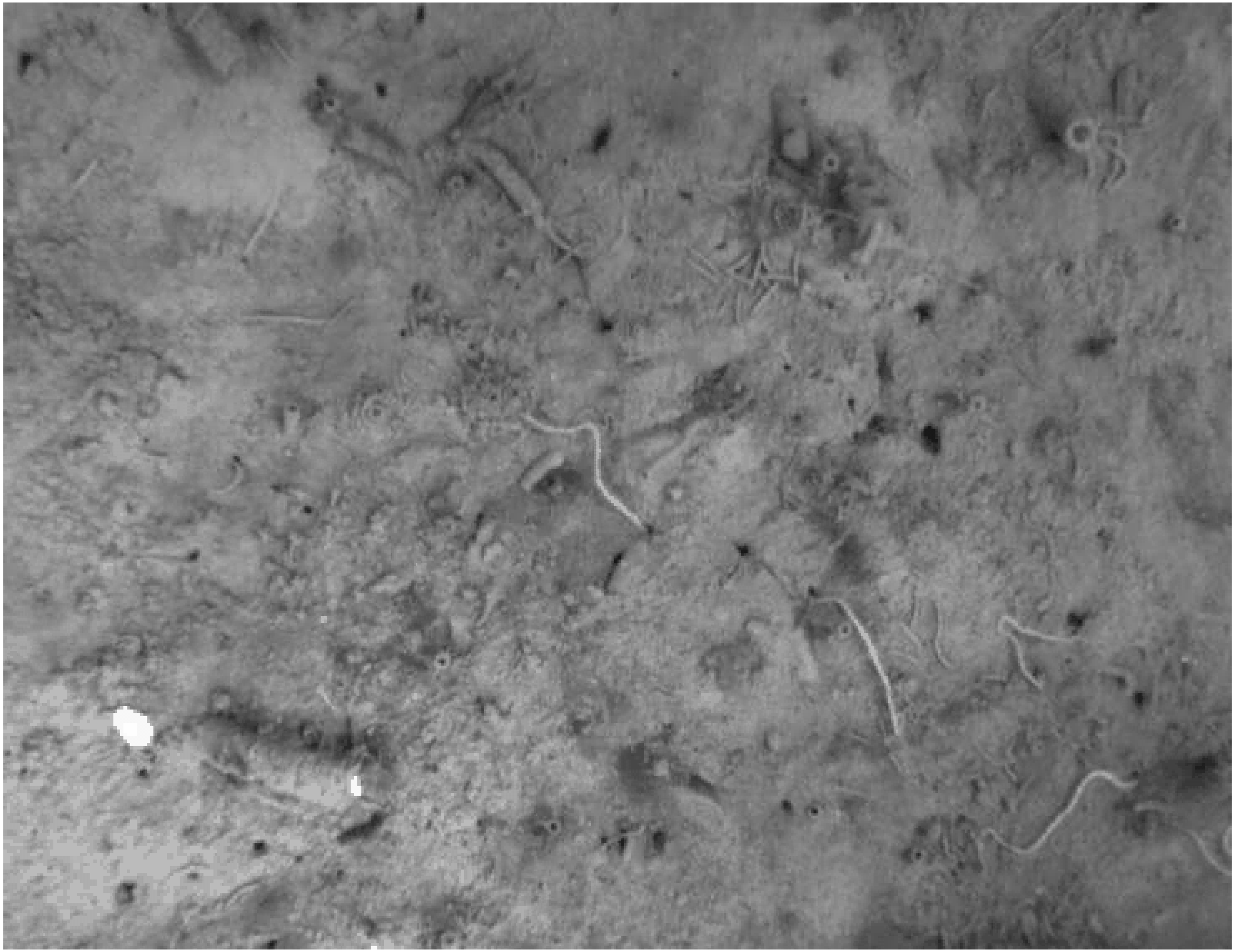
Pomatoceros triqueter activity



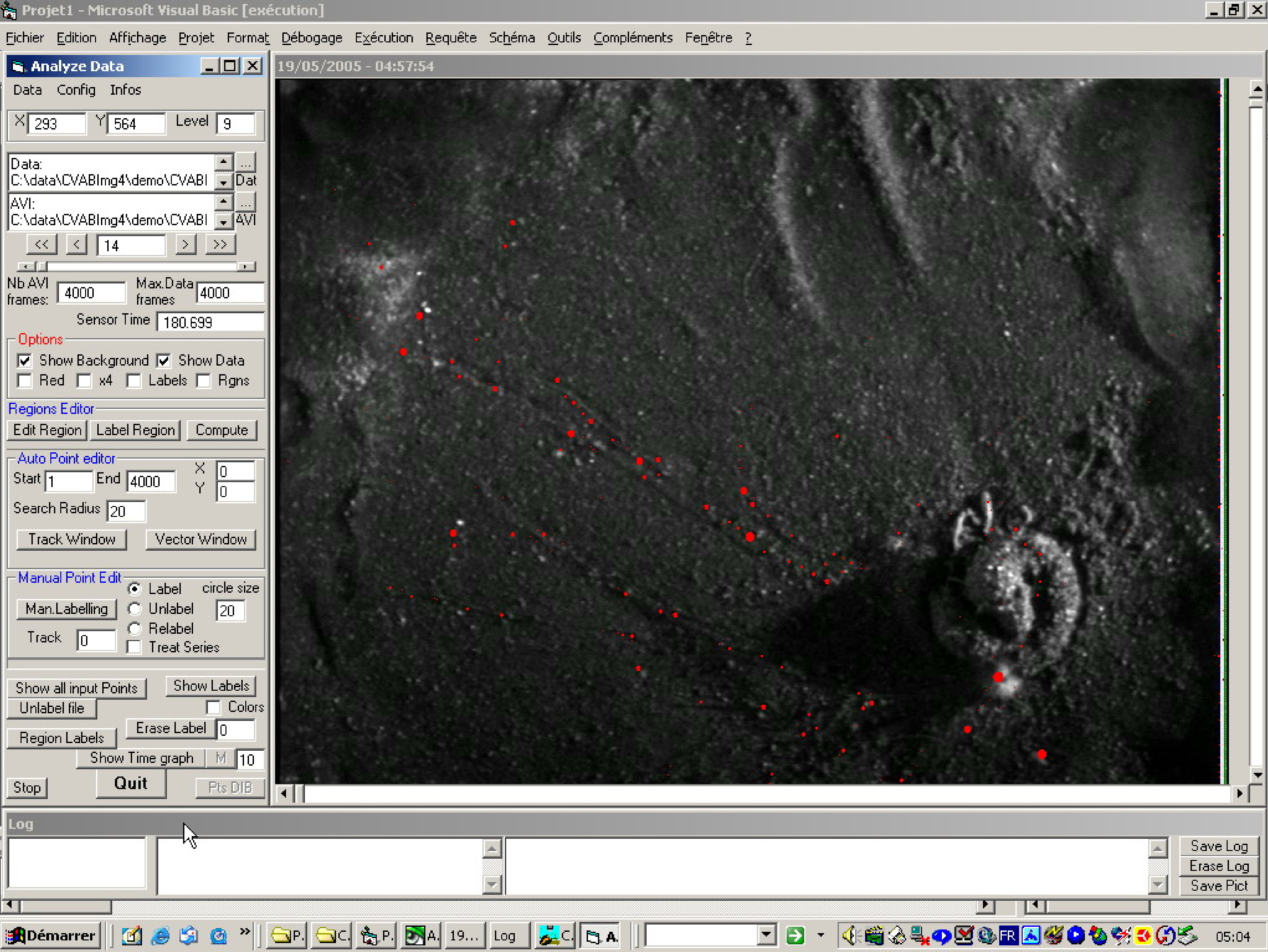
Actographic measure of total activity on a sediment in the Gullmar fjord (80m depth) before and after food addition

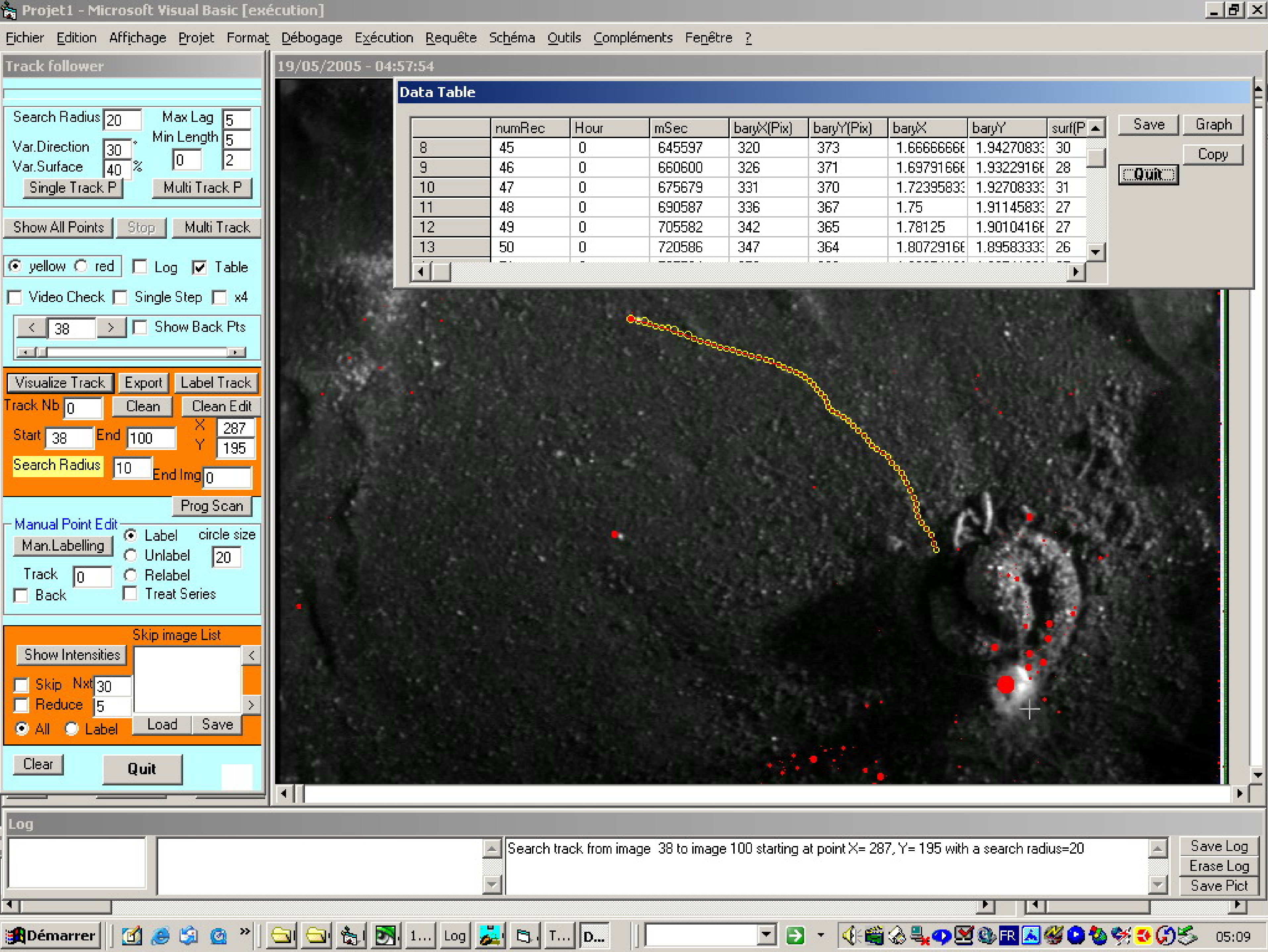


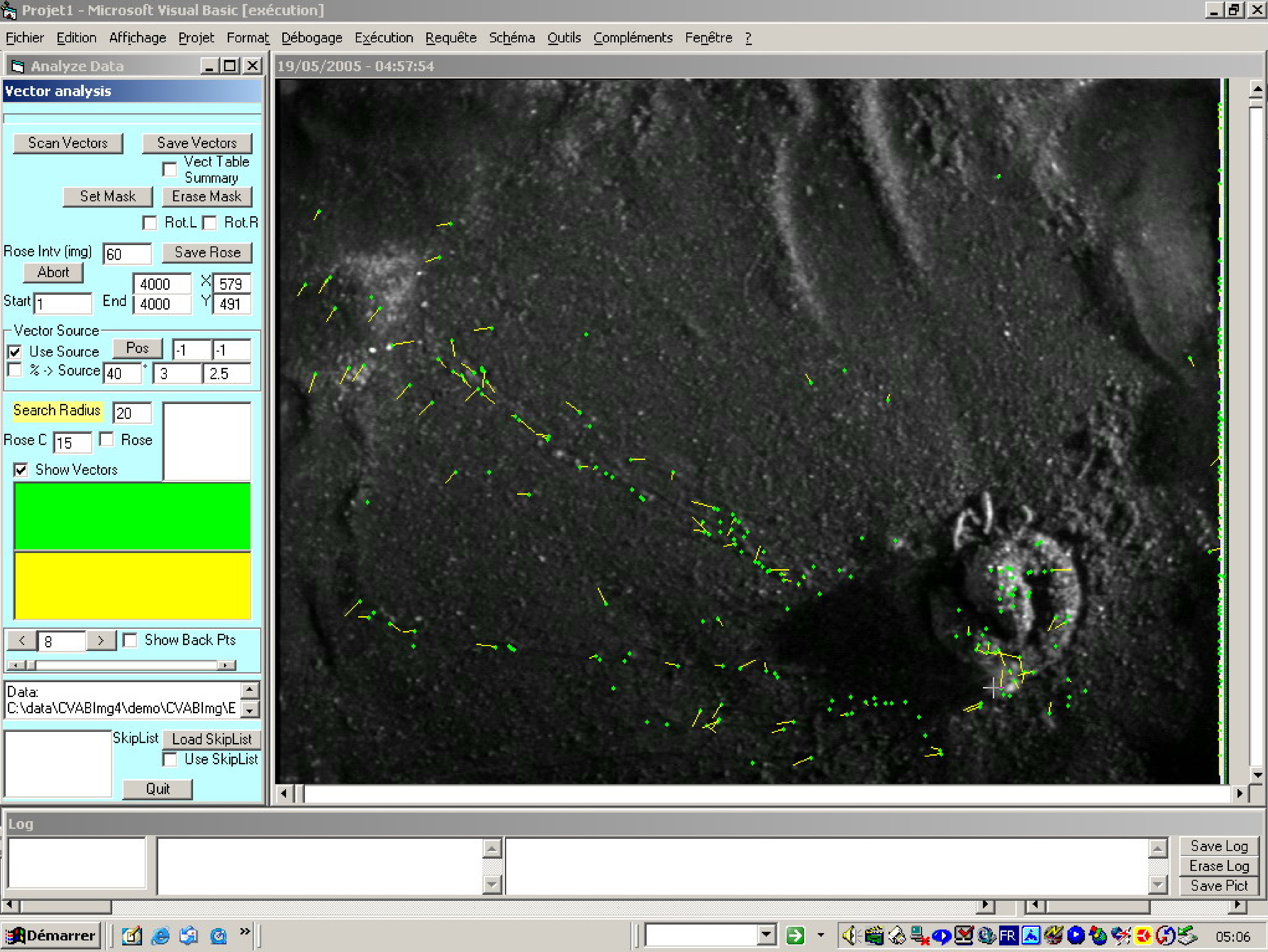
Identification of activities and individual response to food addition

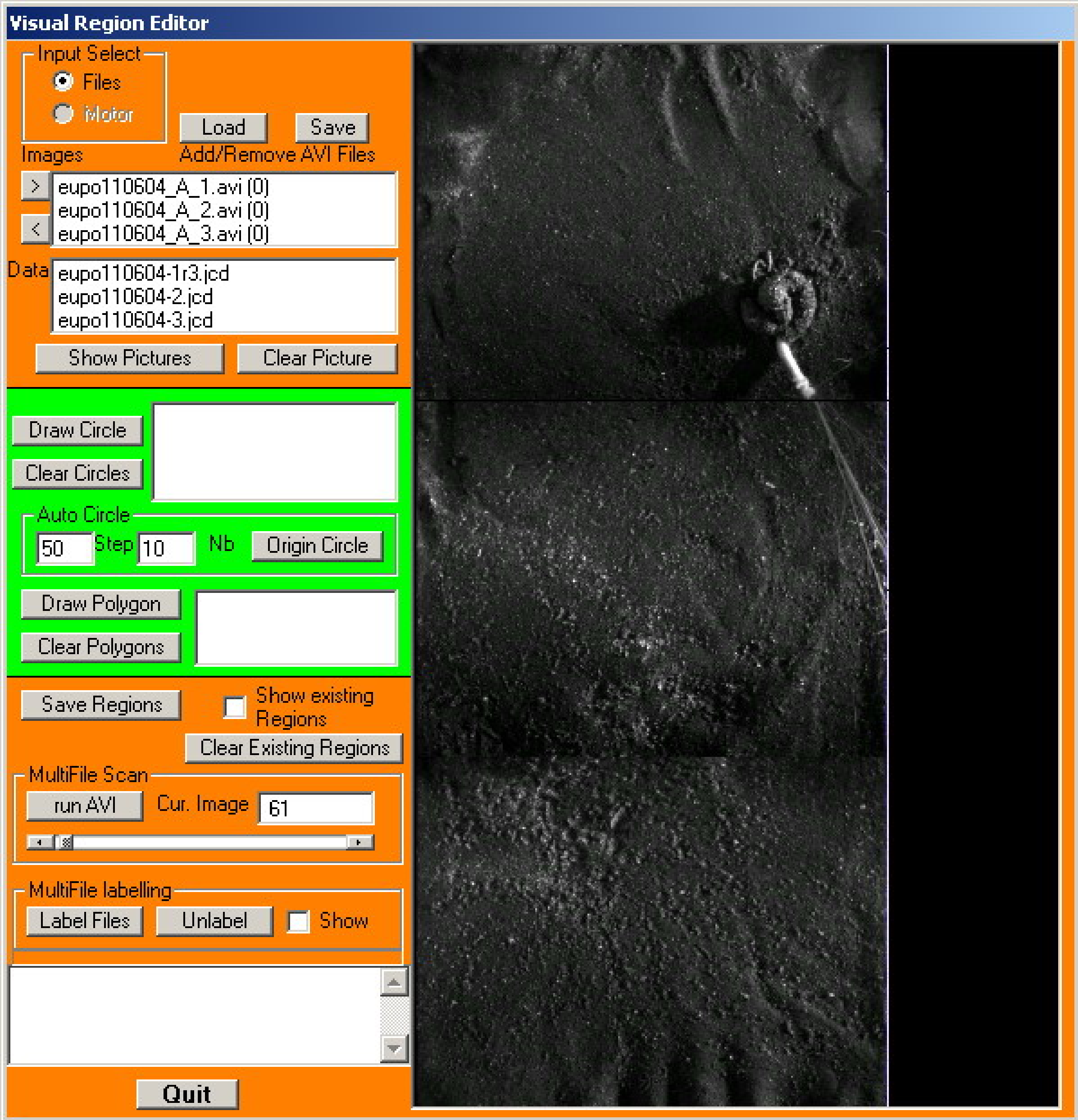


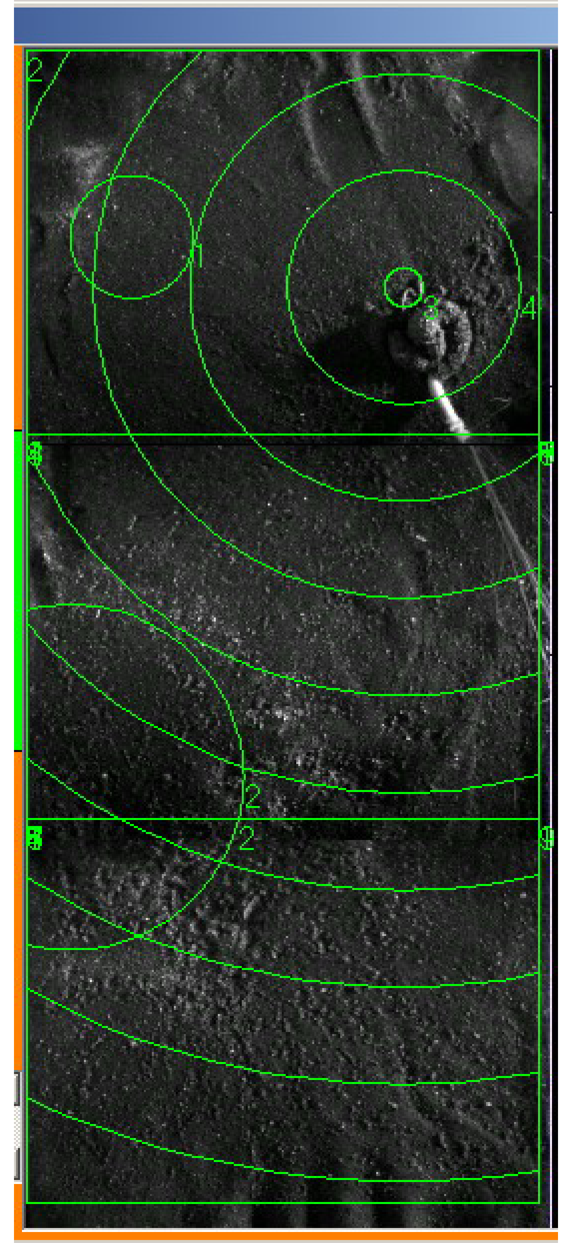
Gullmars fjord, Suède, enregistrement d’activité (durée 20h)

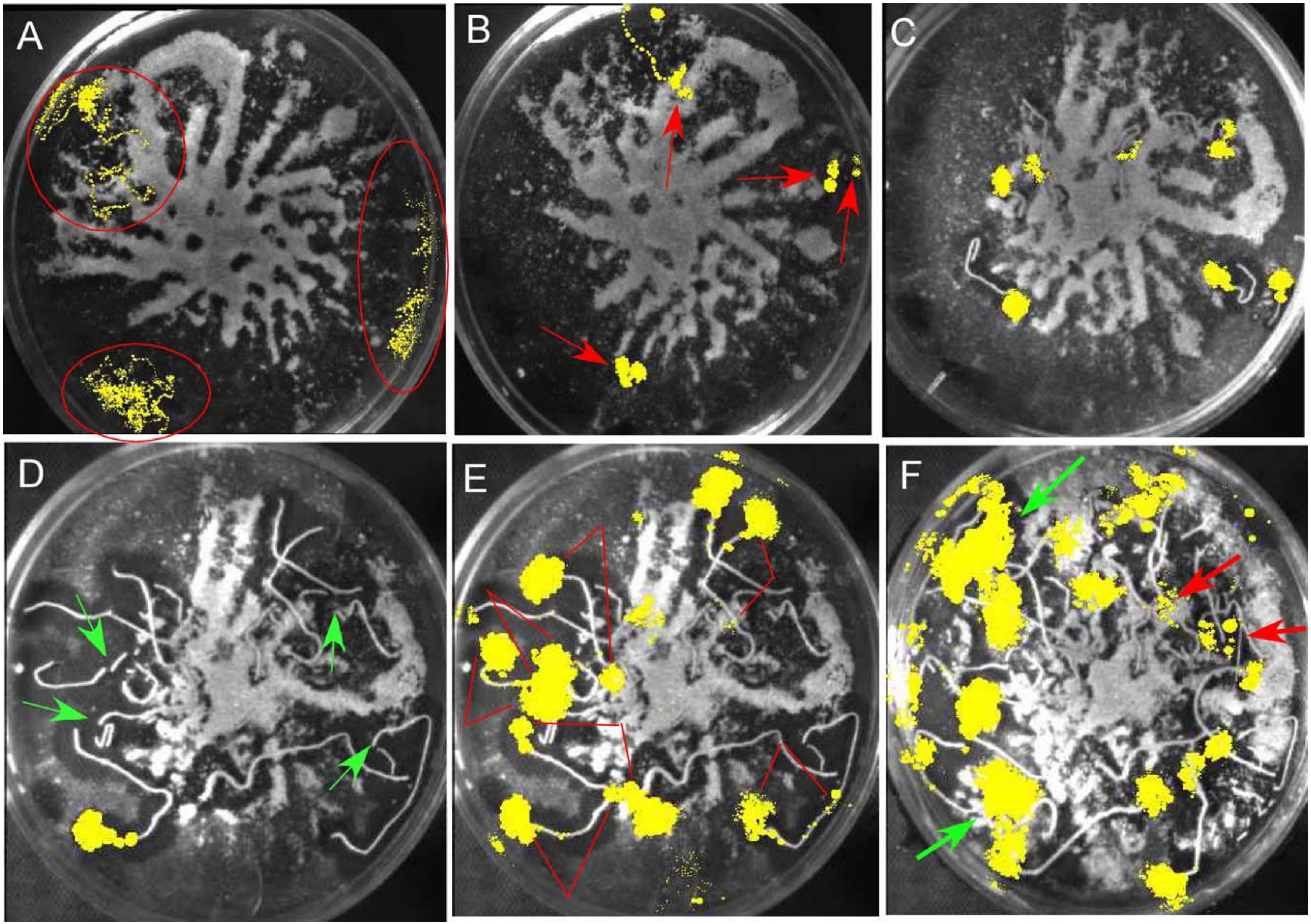

Projet1 - Microsoft Visual Basic [exécution]
Fichier Edition Affichage Projet Format Débogage Exécution Requête Schéma Outils Compléments Fenêtre ?
Analyze Data
Data Config Infos
X 293 Y 564 Level 9
Data:
C:\data\CVABImg4\demo\CVABI
Dat
AVI:
C:\data\CVABImg4\demo\CVABI
AVI
<< < 14 > >>
Nb AVI frames: 4000
Max.Data frames 4000
Sensor Time 180.699
Options
Show Background
Show Data
Red
x4
Labels
Rgns
Regions Editor
Edit Region
Label Region
Compute
Auto Point editor
Start 1 End 4000
X 0
Y 0
Search Radius 20
Track Window
Vector Window
Manual Point Edit
Label
circle size
Man.Labelling
Unlabel
20
Relabel
Track 0
Treat Series
Show all input Points
Show Labels
Unlabel file
Colors
Erase Label 0
Region Labels
Show Time graph
M
10
Stop
Quit
Pts DIB
19/05/2005 - 04:57:54
Log
Save Log
Erase Log
Save Pict
Démarrer
Log
05:04

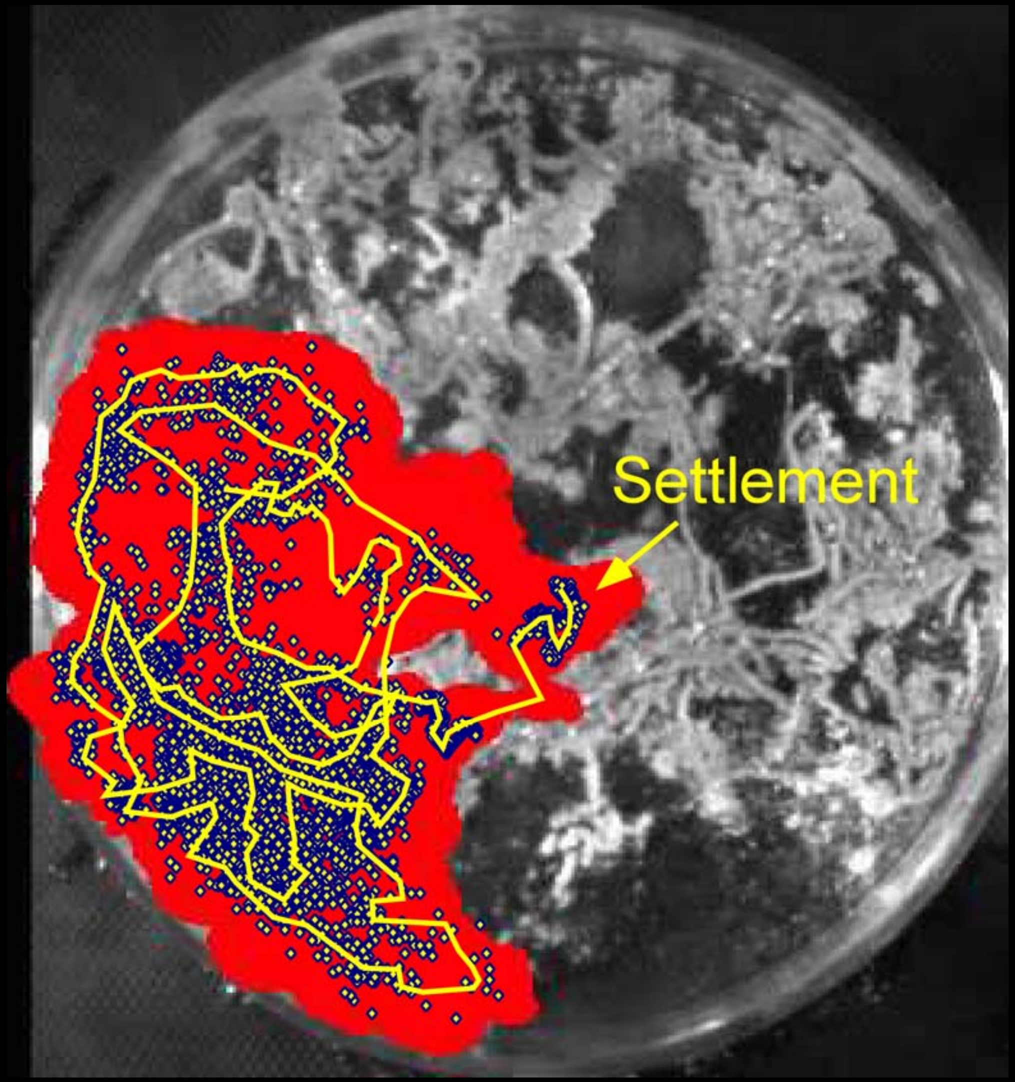

Projet1 - Microsoft Visual Basic [exécution]
Fichier Edition Affichage Projet Format Débogage Exécution Requête Schéma Outils Compléments Fenêtre ?
Track follower
Search Radius 20
Max Lag 5
Min Length 5
Var.Direction 30
Var.Surface 40 %
0
2
Single Track P
Multi Track P
Show All Points
Stop
Multi Track
yellow
red
Log
Table
Video Check
Single Step
x4
38
Show Back Pts
Visualize Track
Export
Label Track
Track Nb 0
Clean
Clean Edit
X 287
Y 195
Start 38
End 100
Search Radius 10
End Img 0
Prog Scan
Manual Point Edit
Man.Labelling
Label
circle size 20
Unlabel
Relabel
Track 0
Back
Treat Series
Skip image List
Show Intensities
Skip
Nxt 30
Reduce 5
All
Label
Load
Save
Clear
Quit
19/05/2005 - 04:57:54
Data Table
numRec Hour mSec baryX(Pix) baryY(Pix) baryX baryY surf(P
8 45 0 645597 320 373 1.6666666 1.9427083 30
9 46 0 660600 326 371 1.6979166 1.9322916 28
10 47 0 675679 331 370 1.7239583 1.9270833 31
11 48 0 690587 336 367 1.75 1.9114583 27
12 49 0 705582 342 365 1.78125 1.9010416 27
13 50 0 720586 347 364 1.8072916 1.8958333 26
Save
Graph
Copy
Quit
Log
Search track from image 38 to image 100 starting at point X= 287, Y= 195 with a search radius=20
Save Log
Erase Log
Save Pict
Démarrer
Log
05:09

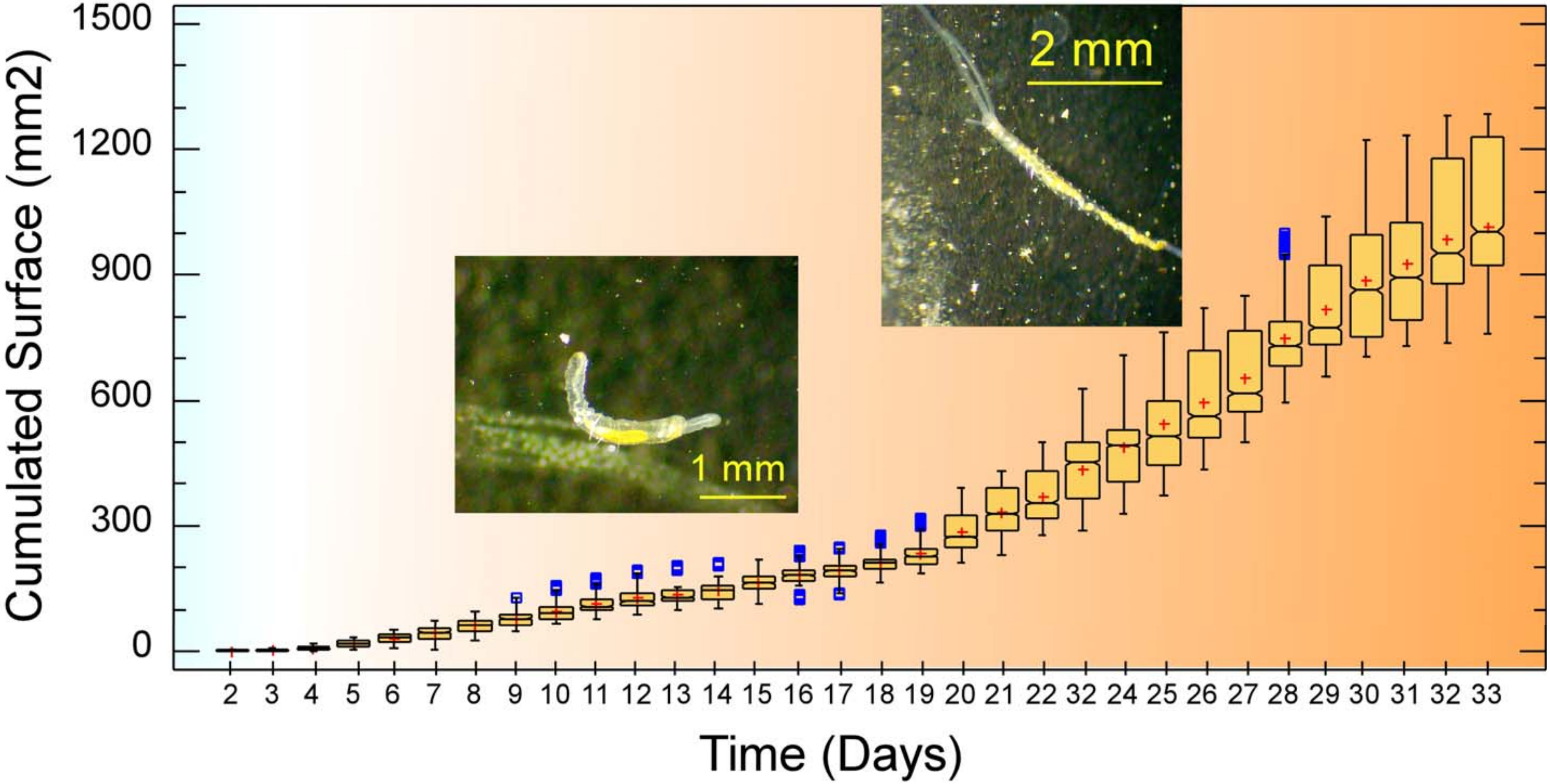

Projet1 - Microsoft Visual Basic [exécution]
Fichier Edition Affichage Projet Format Débogage Exécution Requête Schéma Outils Compléments Fenêtre ?
Analyze Data
19/05/2005 - 04:57:54
Vector analysis
Scan Vectors
Save Vectors
Vect Table Summary
Set Mask
Erase Mask
Rot.L
Rot.R
Rose Intv (img)
60
Save Rose
Abort
4000
X
579
Start
1
End
4000
Y
491
Vector Source
Use Source
Pos
-1
-1
% -> Source
40
3
2.5
Search Radius
20
Rose C
15
Rose
Show Vectors
8
Show Back Pts
Data:
C:\data\CVABImg4\demo\CVABImg\E
SkipList
Load SkipList
Use SkipList
Quit
Log
Save Log
Erase Log
Save Pict
Démarrer
FR
05:06


Visual Region Editor
Input Select
Files
Motor
Load
Save
Images
Add/Remove AVI Files
eupo110604_A_1.avi (0)
eupo110604_A_2.avi (0)
eupo110604_A_3.avi (0)
Data
eupo110604-1r3.jcd
eupo110604-2.jcd
eupo110604-3.jcd
Show Pictures
Clear Picture
Draw Circle
Clear Circles
Auto Circle
50
Step
10
Nb
Origin Circle
Draw Polygon
Clear Polygons
Save Regions
Show existing Regions
Clear Existing Regions
MultiFile Scan
run AVI
Cur. Image
61
MultiFile labelling
Label Files
Unlabel
Show
Quit


2
1
3
4
2
2

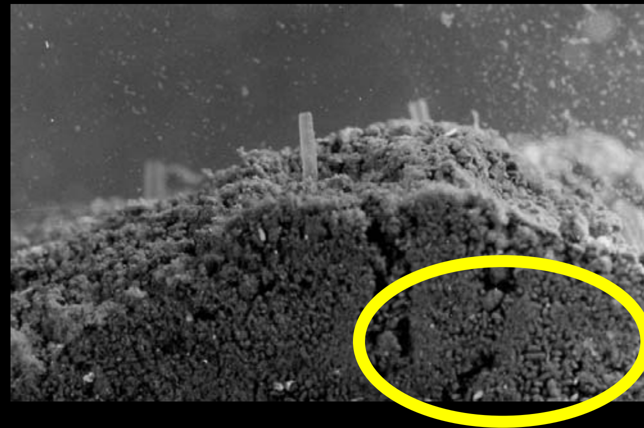

A
B
C
D
E
F

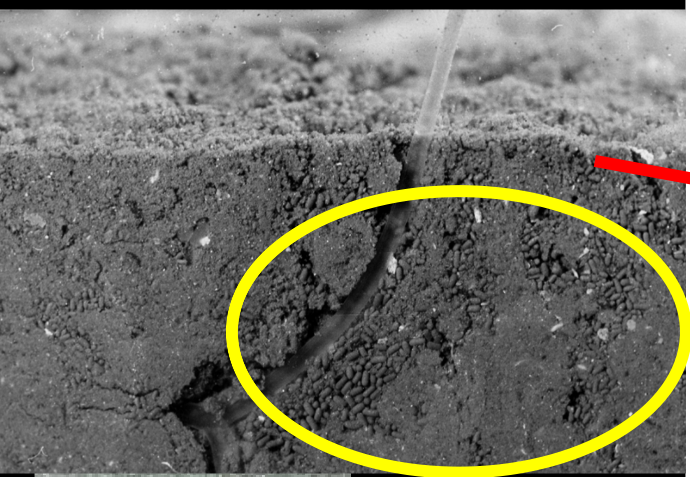

Settlement

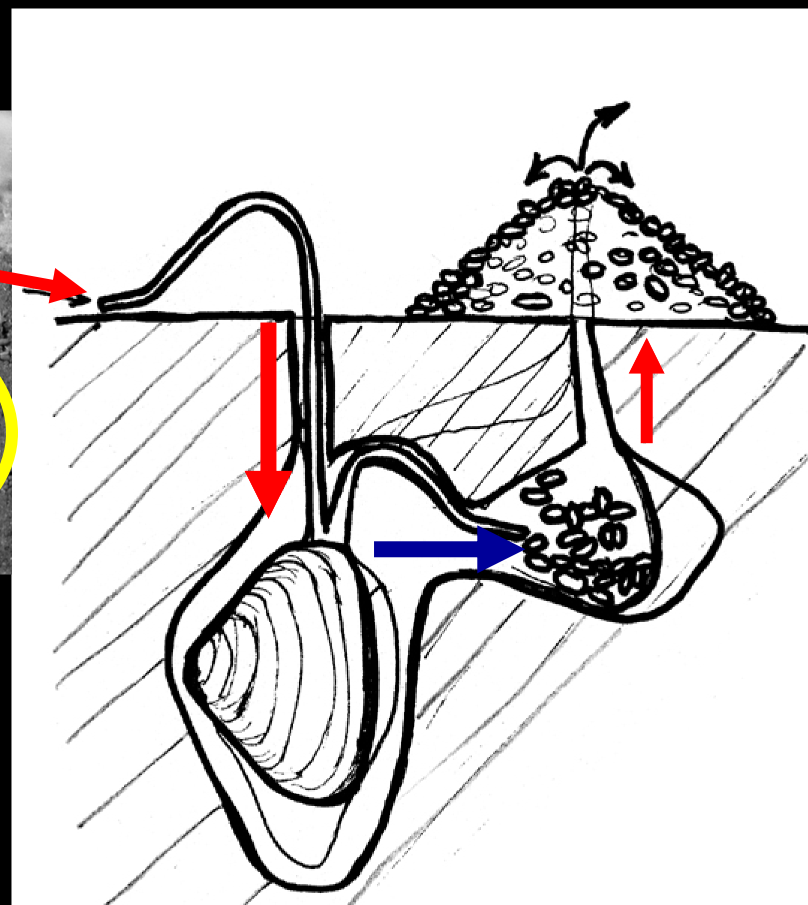


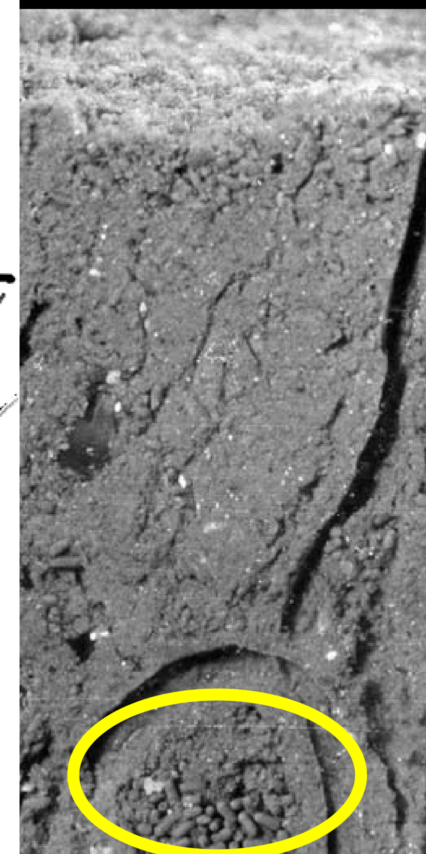
Cumulated Surface (mm2)
Time (Days)
1500
1200
900
600
300
0
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 32 24 25 26 27 28 29 30 31 32 33
1 mm
2 mm

Abra ovata

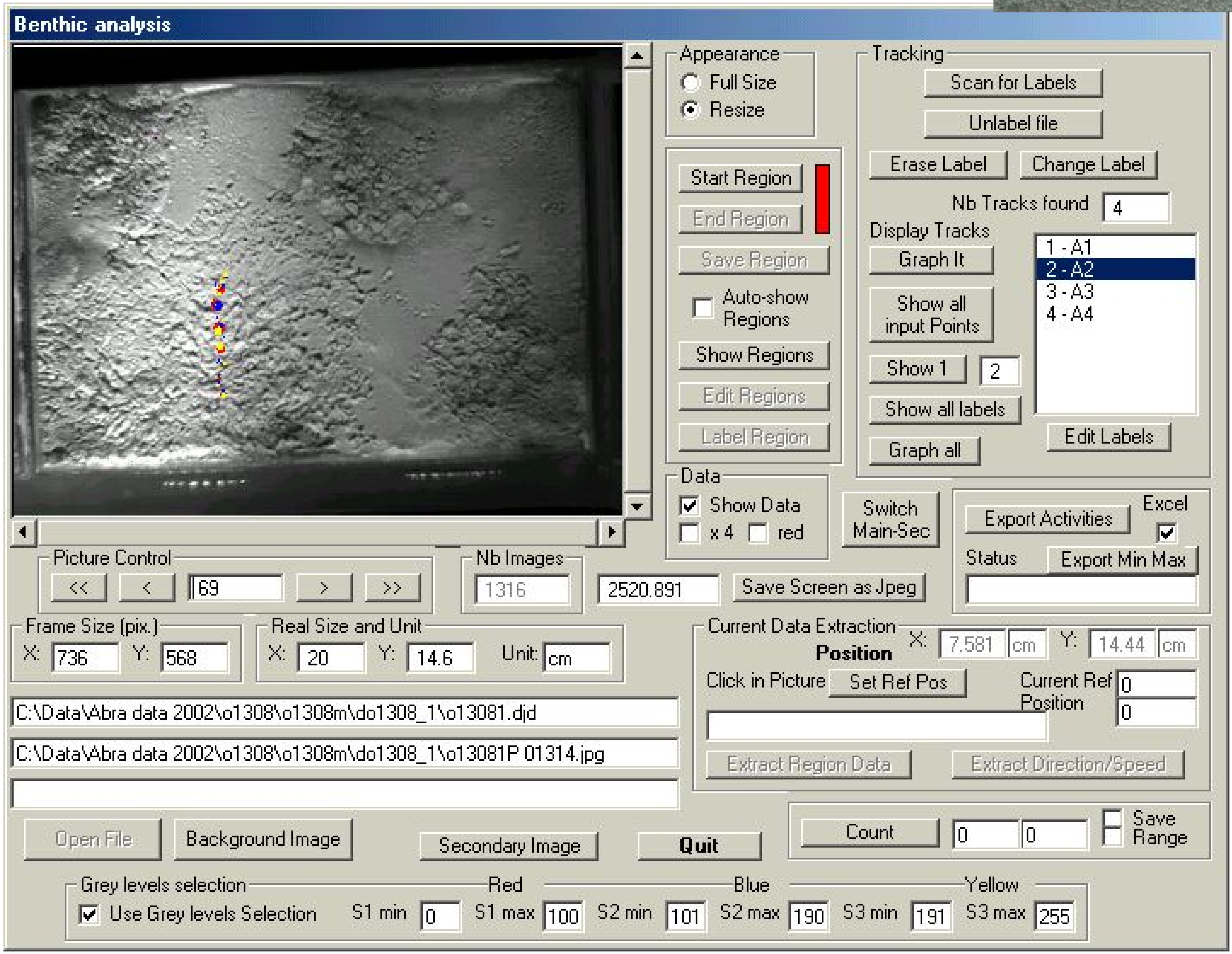


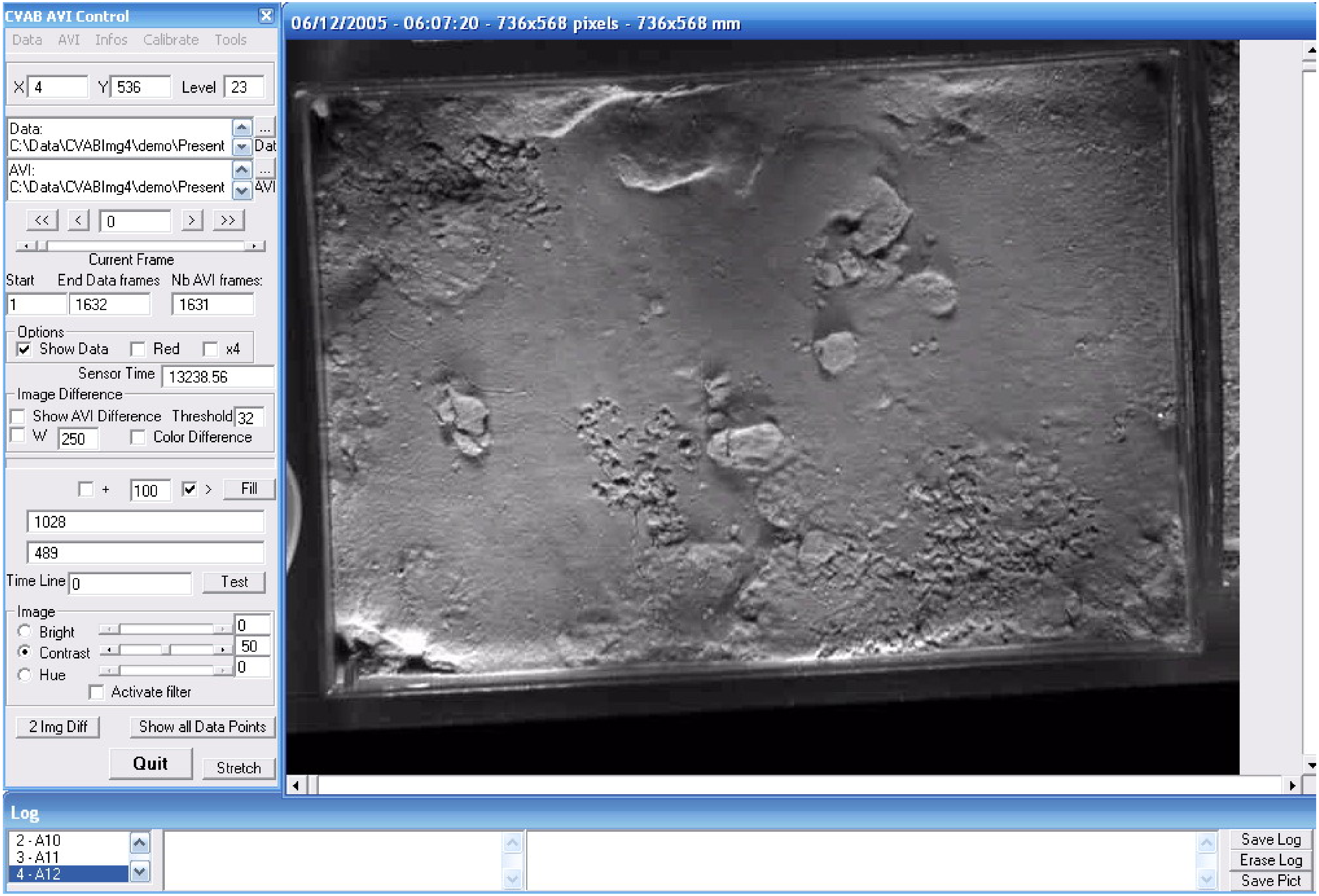


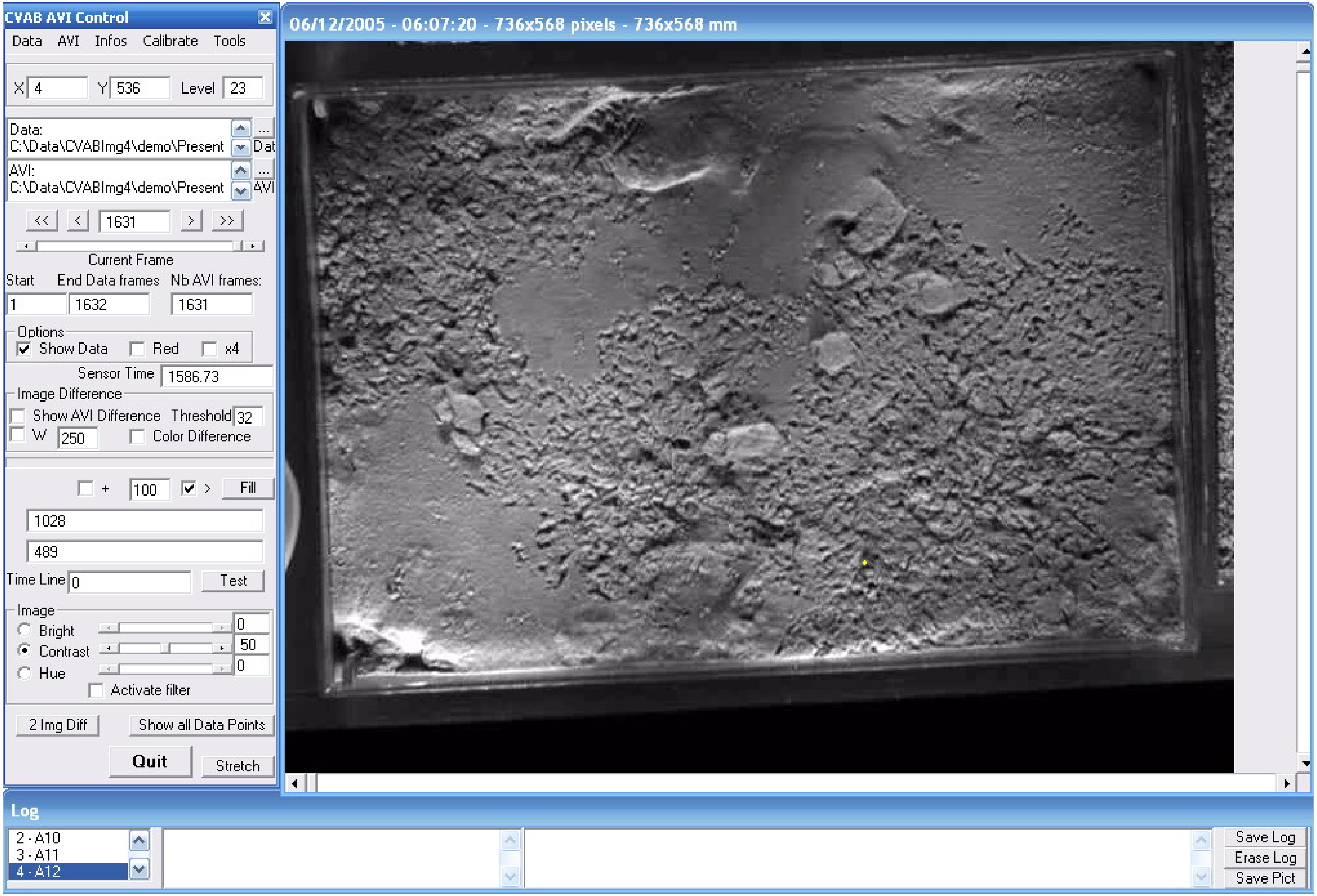


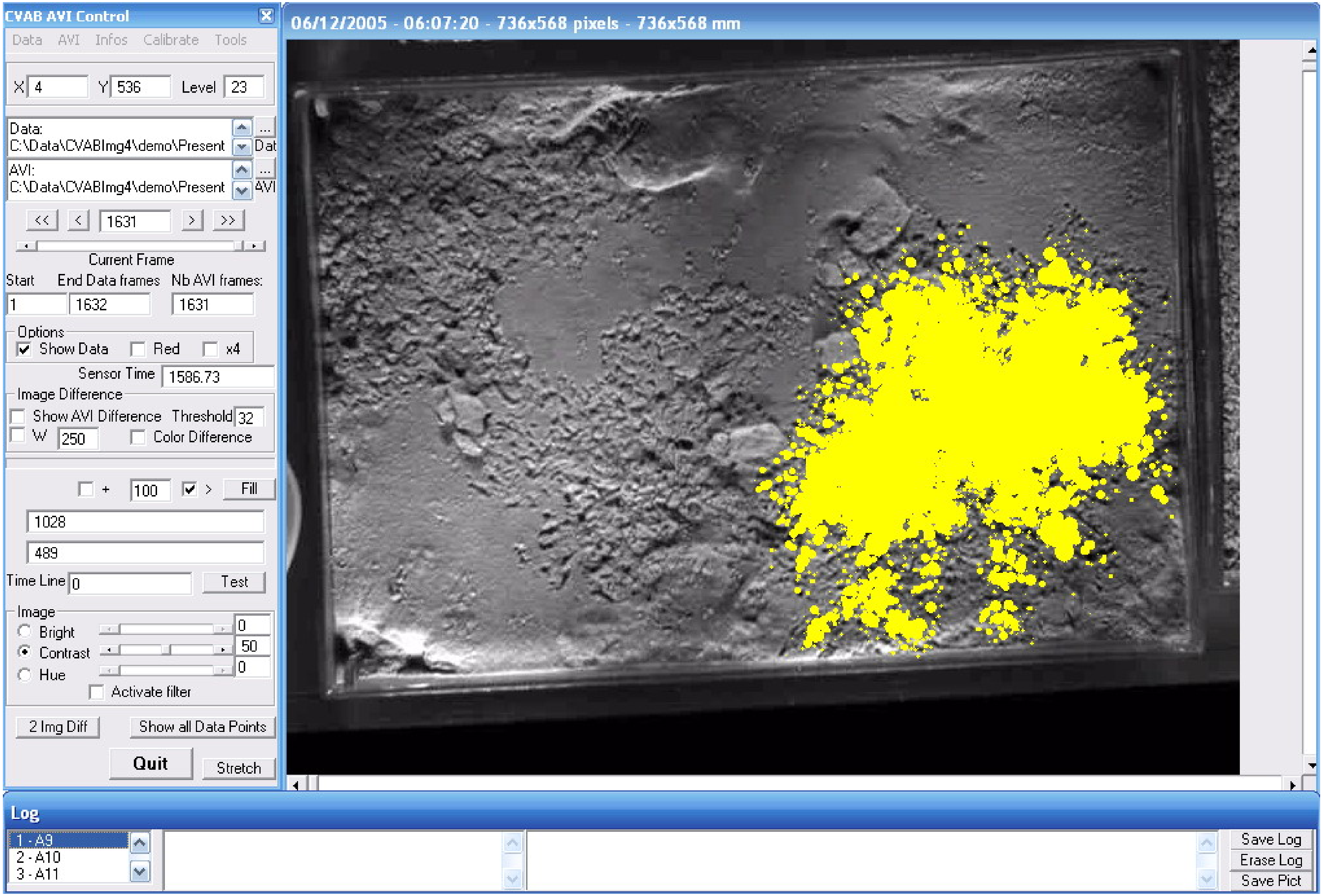


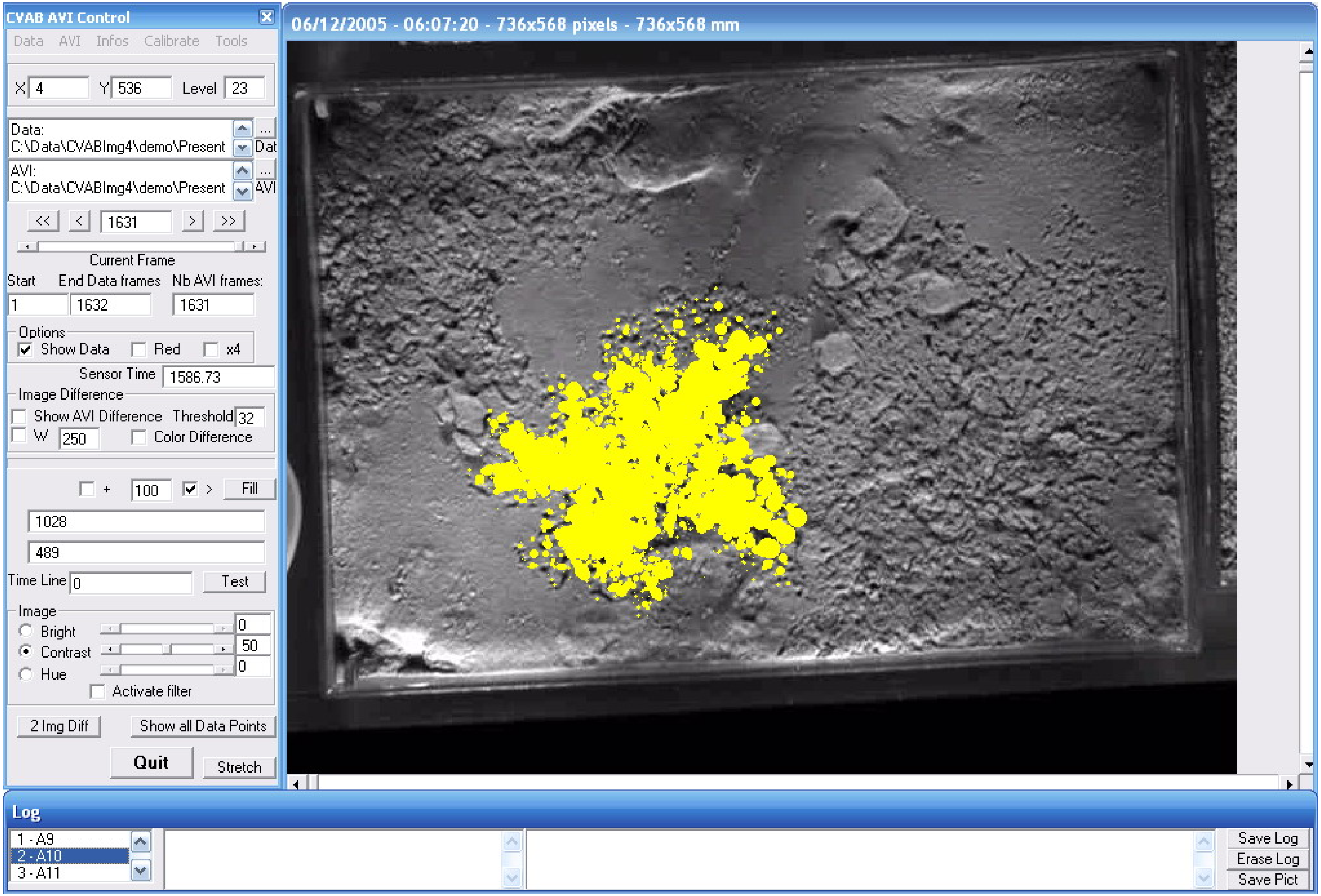
Activity recording with the actographic system

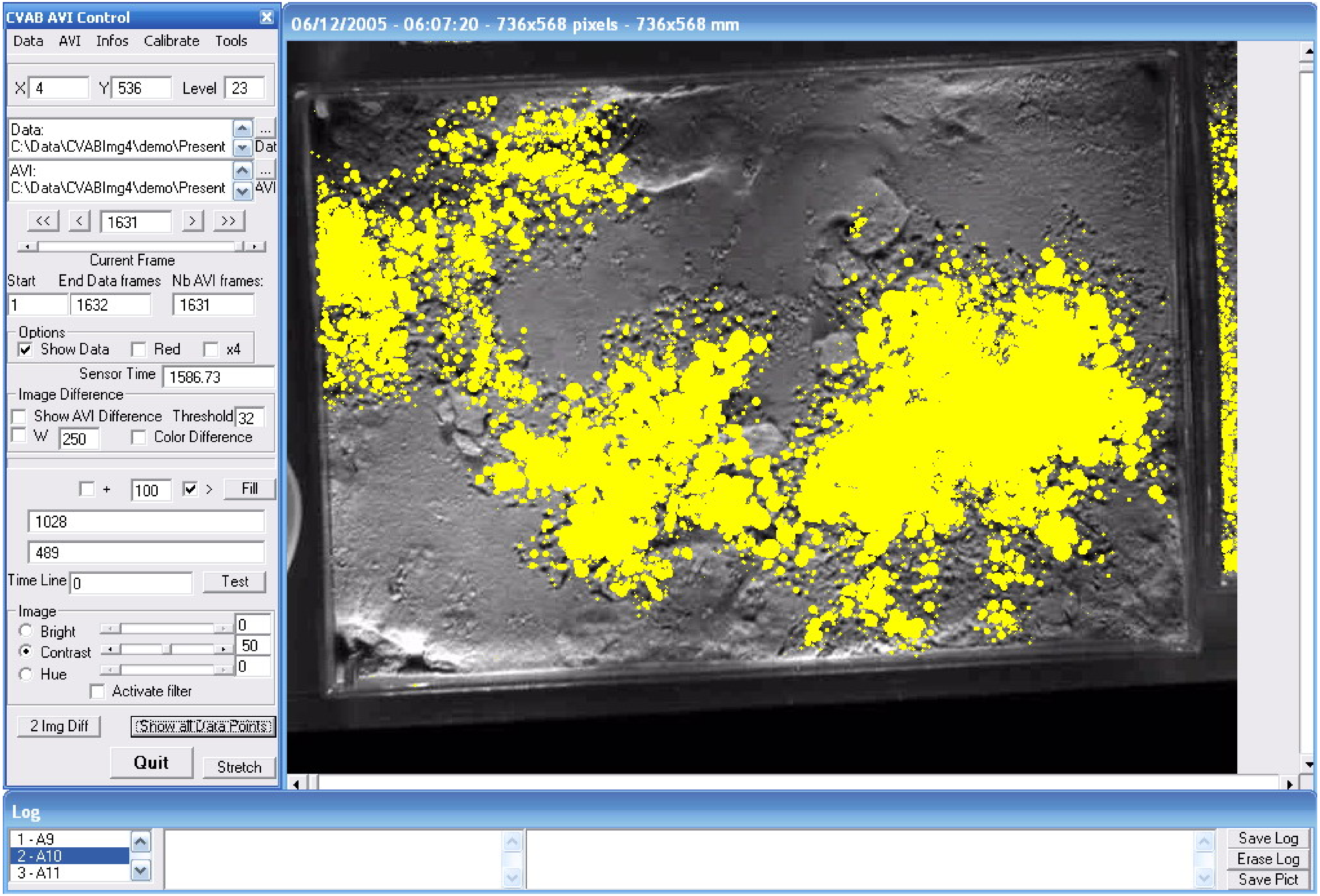


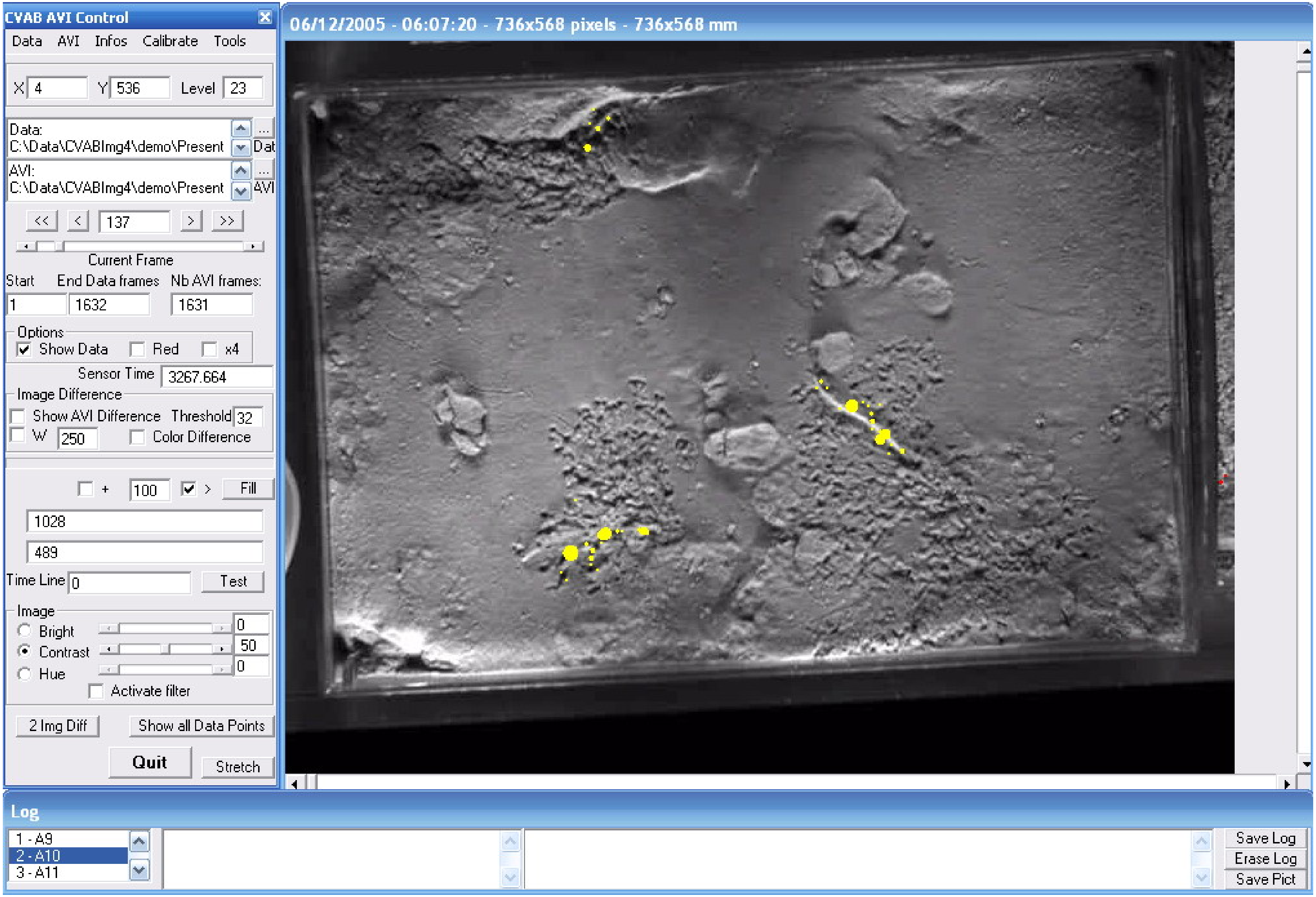

CVAB AVI Control
Data AVI Infos Calibrate Tools
X 4 Y 536 Level 23
Data:
C:\Data\CVABImg4\demo\Present
Dat
AVI:
C:\Data\CVABImg4\demo\Present
AVI
<< < 0 > >>
Current Frame
Start End Data frames Nb AVI frames:
1 1632 1631
Options
Show Data Red x4
Sensor Time 13238.56
Image Difference
Show AVI Difference Threshold 32
W 250 Color Difference
+ 100 > Fill
1028
489
Time Line 0 Test
Image
Bright 0
Contrast 50
Hue 0
Activate filter
2 Img Diff Show all Data Points
Quit Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
2 - A10
3 - A11
4 - A12
Save Log
Erase Log
Save Pict

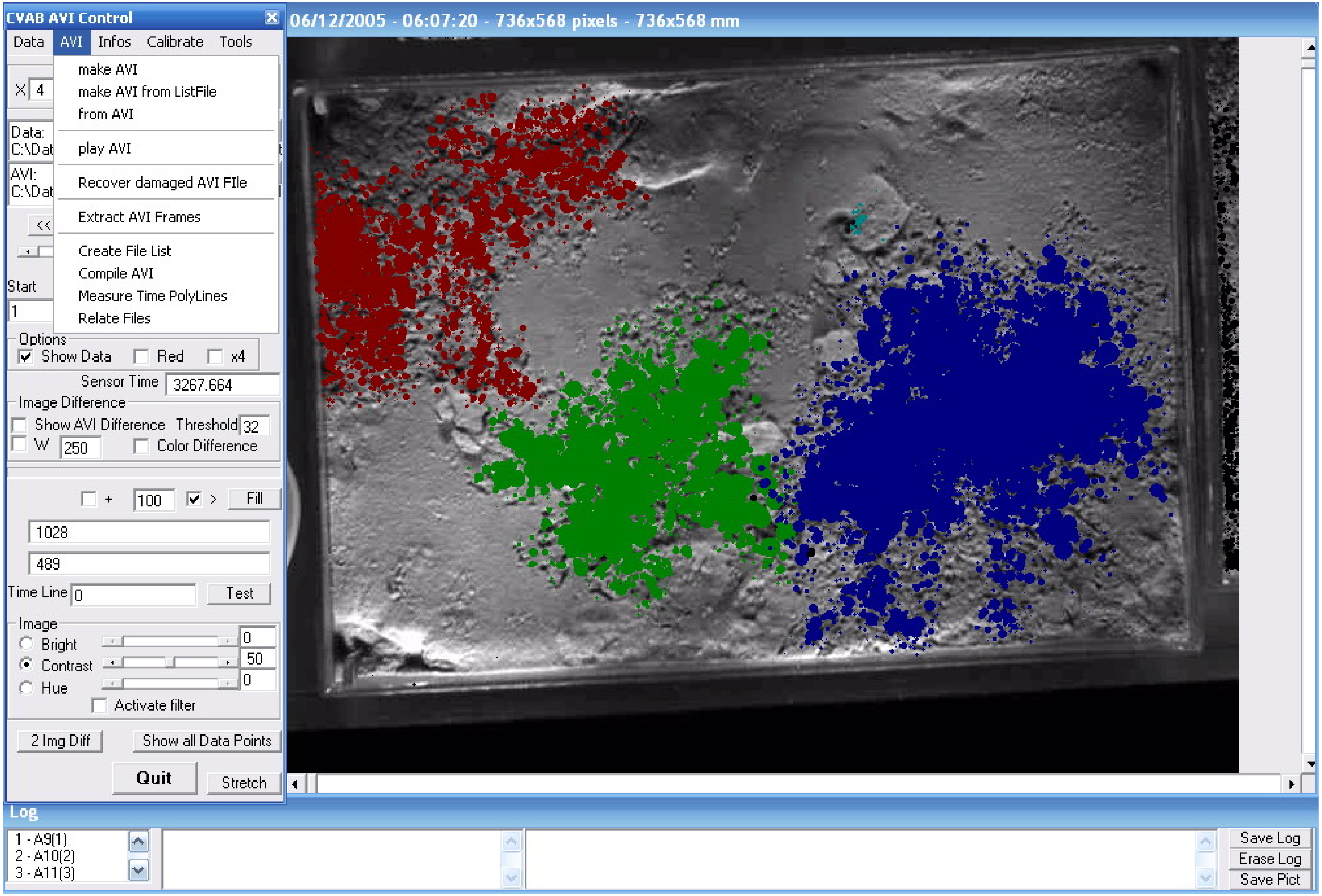

CVAB AVI Control
Data AVI Infos Calibrate Tools
X 4 Y 536 Level 23
Data:
C:\Data\CVABImg4\demo\Present
AVI:
C:\Data\CVABImg4\demo\Present
1631
Current Frame
Start End Data frames Nb AVI frames:
1 1632 1631
Options
Show Data Red x4
Sensor Time 1586.73
Image Difference
Show AVI Difference Threshold 32
W 250 Color Difference
+ 100 > Fill
1028
489
Time Line 0 Test
Image
Bright 0
Contrast 50
Hue 0
Activate filter
2 Img Diff Show all Data Points
Quit Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
2 - A10
3 - A11
4 - A12
Save Log
Erase Log
Save Pict

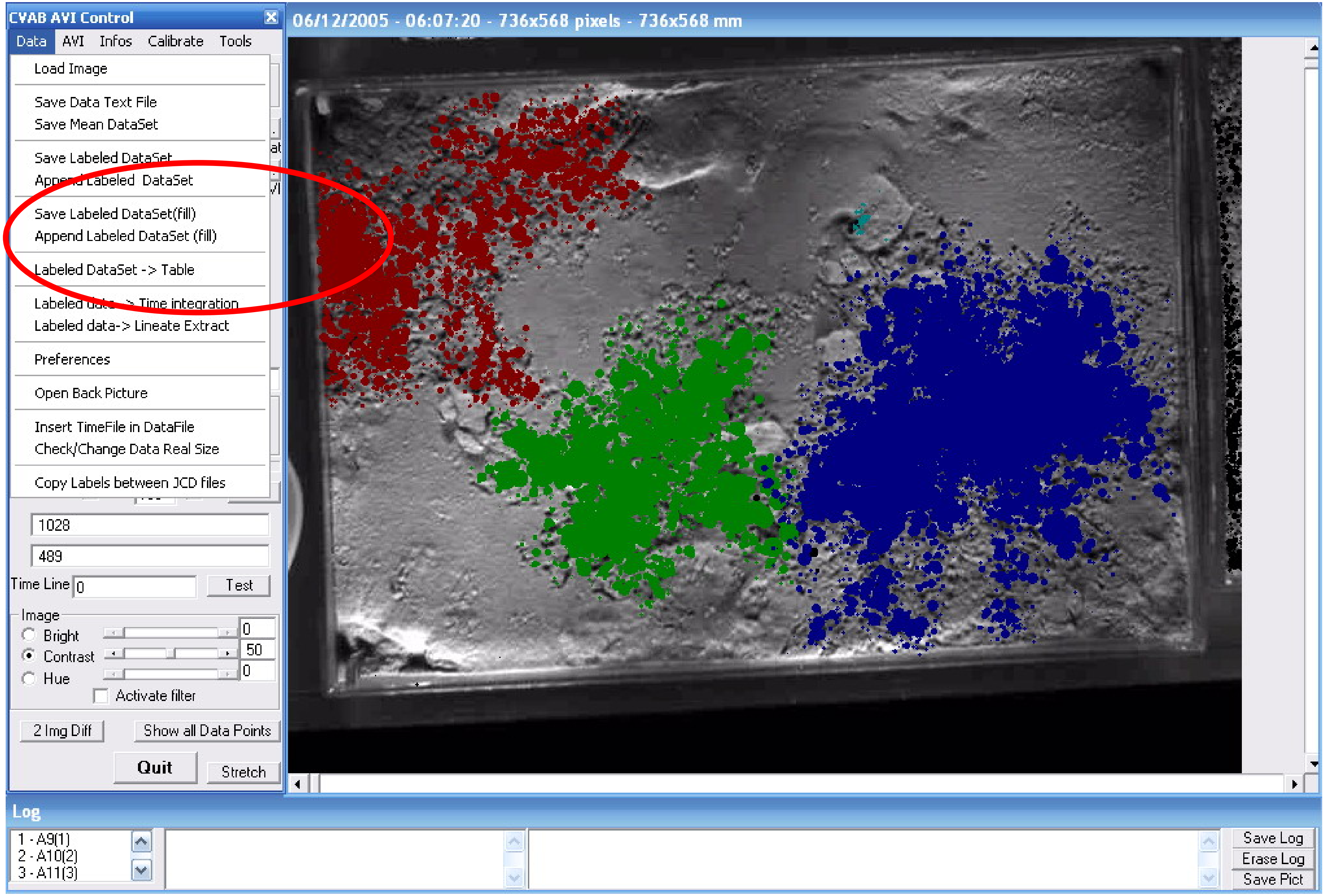

CVAB AVI Control
Data AVI Infos Calibrate Tools
X 4 Y 536 Level 23
Data:
C:\Data\CVABImg4\demo\Present
AVI:
C:\Data\CVABImg4\demo\Present
1631
Current Frame
Start End Data frames Nb AVI frames:
1 1632 1631
Options
Show Data Red x4
Sensor Time 1586.73
Image Difference
Show AVI Difference Threshold 32
W 250 Color Difference
+ 100 > Fill
1028
489
Time Line 0 Test
Image
Bright 0
Contrast 50
Hue 0
Activate filter
2 Img Diff
Show all Data Points
Quit
Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9
2 - A10
3 - A11
Save Log
Erase Log
Save Pict


CVAB AVI Control
Data AVI Infos Calibrate Tools
X 4 Y 536 Level 23
Data:
C:\Data\CVABImg4\demo\Present
Dat
AVI:
C:\Data\CVABImg4\demo\Present
AVI
<< < 1631 > >>
Current Frame
Start End Data frames Nb AVI frames:
1 1632 1631
Options
Show Data Red x4
Sensor Time 1586.73
Image Difference
Show AVI Difference Threshold 32
W 250 Color Difference
+ 100 > Fill
1028
489
Time Line 0 Test
Image
Bright 0
Contrast 50
Hue 0
Activate filter
2 Img Diff Show all Data Points
Quit Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9
2 - A10
3 - A11
Save Log
Erase Log
Save Pict

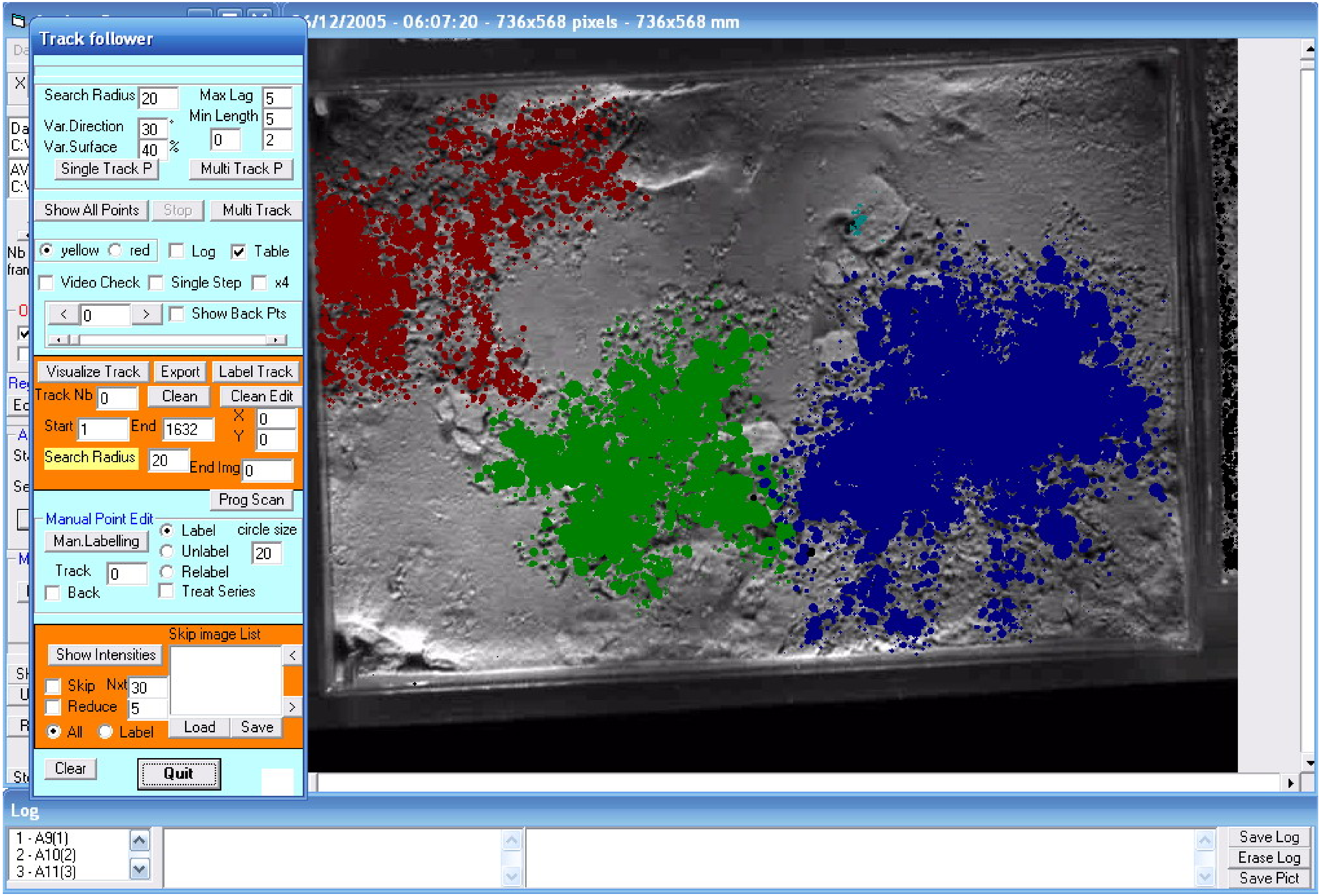

CVAB AVI Control
Data AVI Infos Calibrate Tools
X 4 Y 536 Level 23
Data: C:\Data\CVABImg4\demo\Present
AVI: C:\Data\CVABImg4\demo\Present
1631
Current Frame
Start End Data frames Nb AVI frames:
1 1632 1631
Options
Show Data Red x4
Sensor Time 1586.73
Image Difference
Show AVI Difference Threshold 32
W 250 Color Difference
+ 100 > Fill
1028
489
Time Line 0 Test
Image
Bright 0
Contrast 50
Hue 0
Activate filter
2 Img Diff
Show all Data Points
Quit
Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9
2 - A10
3 - A11
Save Log
Erase Log
Save Pict

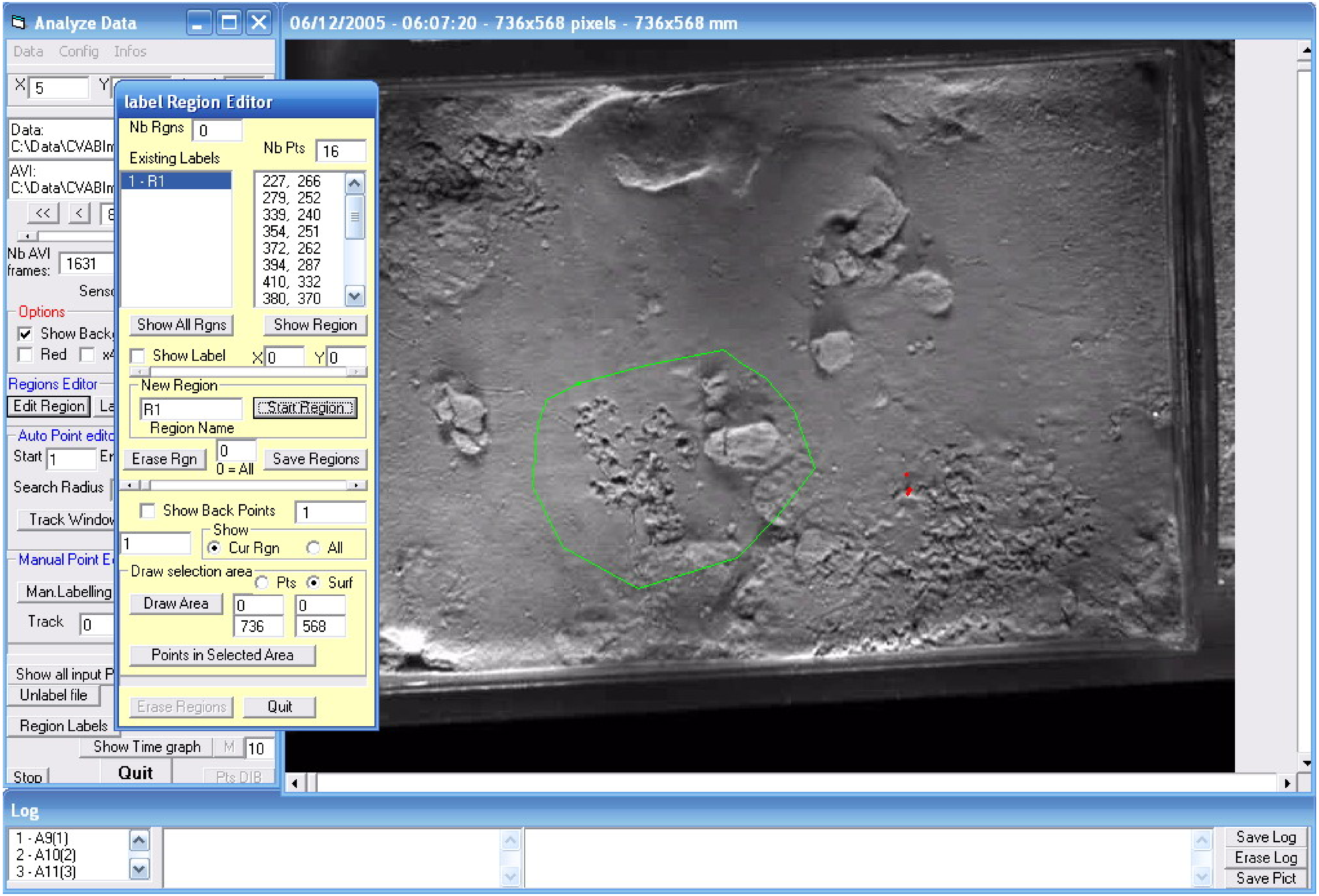

CVAB AVI Control
Data AVI Infos Calibrate Tools
X 4 Y 536 Level 23
Data:
C:\Data\CVABImg4\demo\Present
Dat
AVI:
C:\Data\CVABImg4\demo\Present
AVI
<< < 137 > >>
Current Frame
Start End Data frames Nb AVI frames:
1 1632 1631
Options
Show Data Red x4
Sensor Time 3267.664
Image Difference
Show AVI Difference Threshold 32
W 250 Color Difference
+ 100 > Fill
1028
489
Time Line 0 Test
Image
Bright 0
Contrast 50
Hue 0
Activate filter
2 Img Diff Show all Data Points
Quit Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9
2 - A10
3 - A11
Save Log
Erase Log
Save Pict

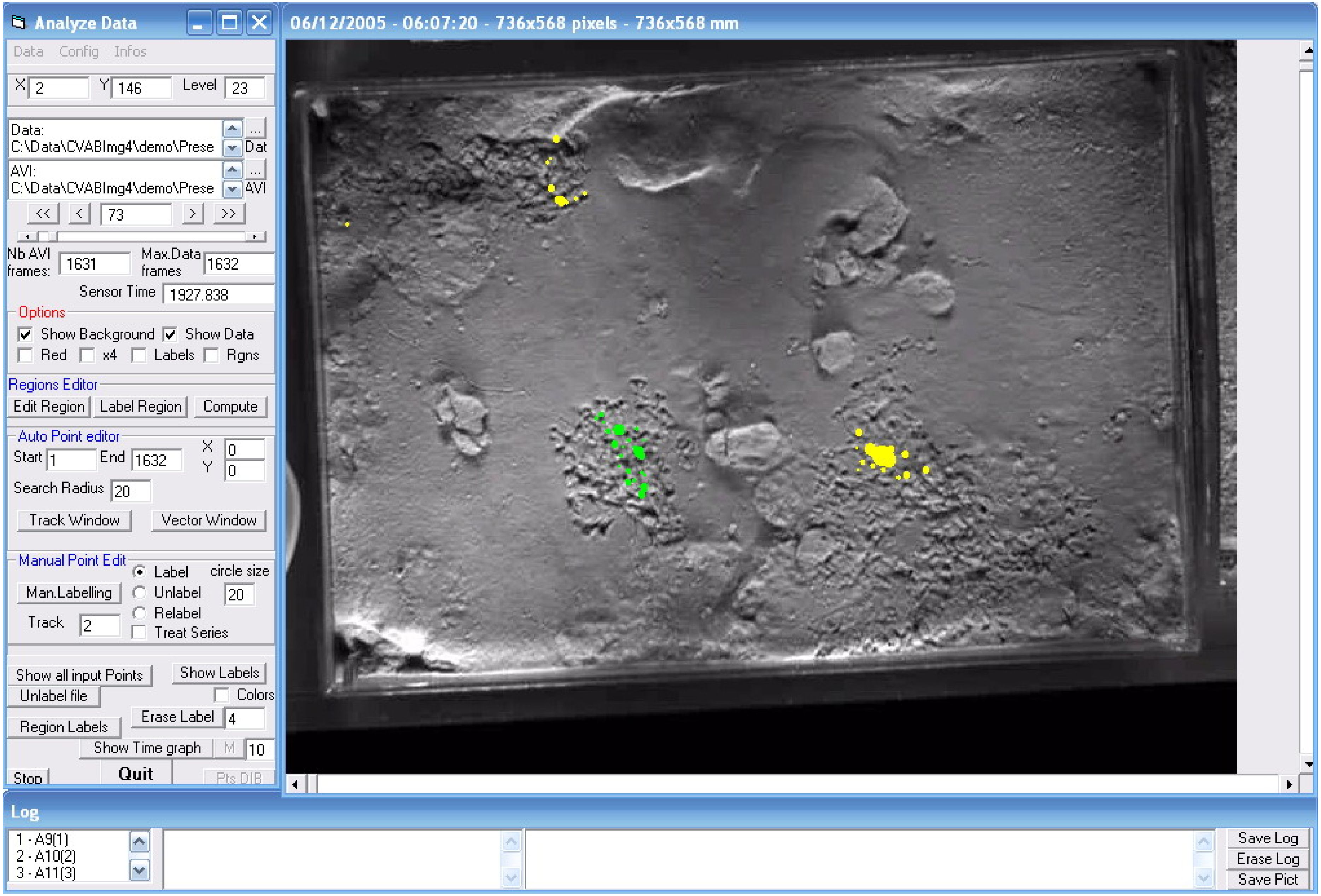

CVAB AVI Control
Data AVI Infos Calibrate Tools
make AVI
make AVI from ListFile
from AVI
play AVI
Recover damaged AVI FIle
Extract AVI Frames
Create File List
Compile AVI
Measure Time PolyLines
Relate Files
Data:
C:\Dat
AVI:
C:\Dat
Start
Options
Show Data
Red
x4
Sensor Time 3267.664
Image Difference
Show AVI Difference
Threshold 32
W 250
Color Difference
Fill
1028
489
Time Line 0
Test
Image
Bright
Contrast
Hue
Activate filter
2 Img Diff
Show all Data Points
Quit
Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9(1)
2 - A10(2)
3 - A11(3)
Save Log
Erase Log
Save Pict



CVAB AVI Control
Data
AVI
Infos
Calibrate
Tools
Load Image
Save Data Text File
Save Mean DataSet
Save Labeled DataSet
Append Labeled DataSet
Save Labeled DataSet(fill)
Append Labeled DataSet (fill)
Labeled DataSet -> Table
Labeled data -> Time integration
Labeled data-> Lineate Extract
Preferences
Open Back Picture
Insert TimeFile in DataFile
Check/Change Data Real Size
Copy Labels between JCD files
1028
489
Time Line
0
Test
Image
Bright
Contrast
Hue
0
50
0
Activate filter
2 Img Diff
Show all Data Points
Quit
Stretch
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9(1)
2 - A10(2)
3 - A11(3)
Save Log
Erase Log
Save Pict


/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Track follower
Search Radius
20
Max Lag
5
Min Length
5
Var.Direction
30
Var.Surface
40
%
0
2
Single Track P
Multi Track P
Show All Points
Stop
Multi Track
yellow
red
Log
Table
Video Check
Single Step
x4
0
Show Back Pts
Visualize Track
Export
Label Track
Track Nb
0
Clean
Clean Edit
Start
1
End
1632
X
0
Y
0
Search Radius
20
End Img
0
Prog Scan
Manual Point Edit
Man.Labelling
Label
circle size
Unlabel
20
Track
0
Relabel
Back
Treat Series
Skip image List
Show Intensities
Skip
Nxt
30
Reduce
5
All
Label
Load
Save
Clear
Quit
Log
1 - A9(1)
2 - A10(2)
3 - A11(3)
Save Log
Erase Log
Save Pict

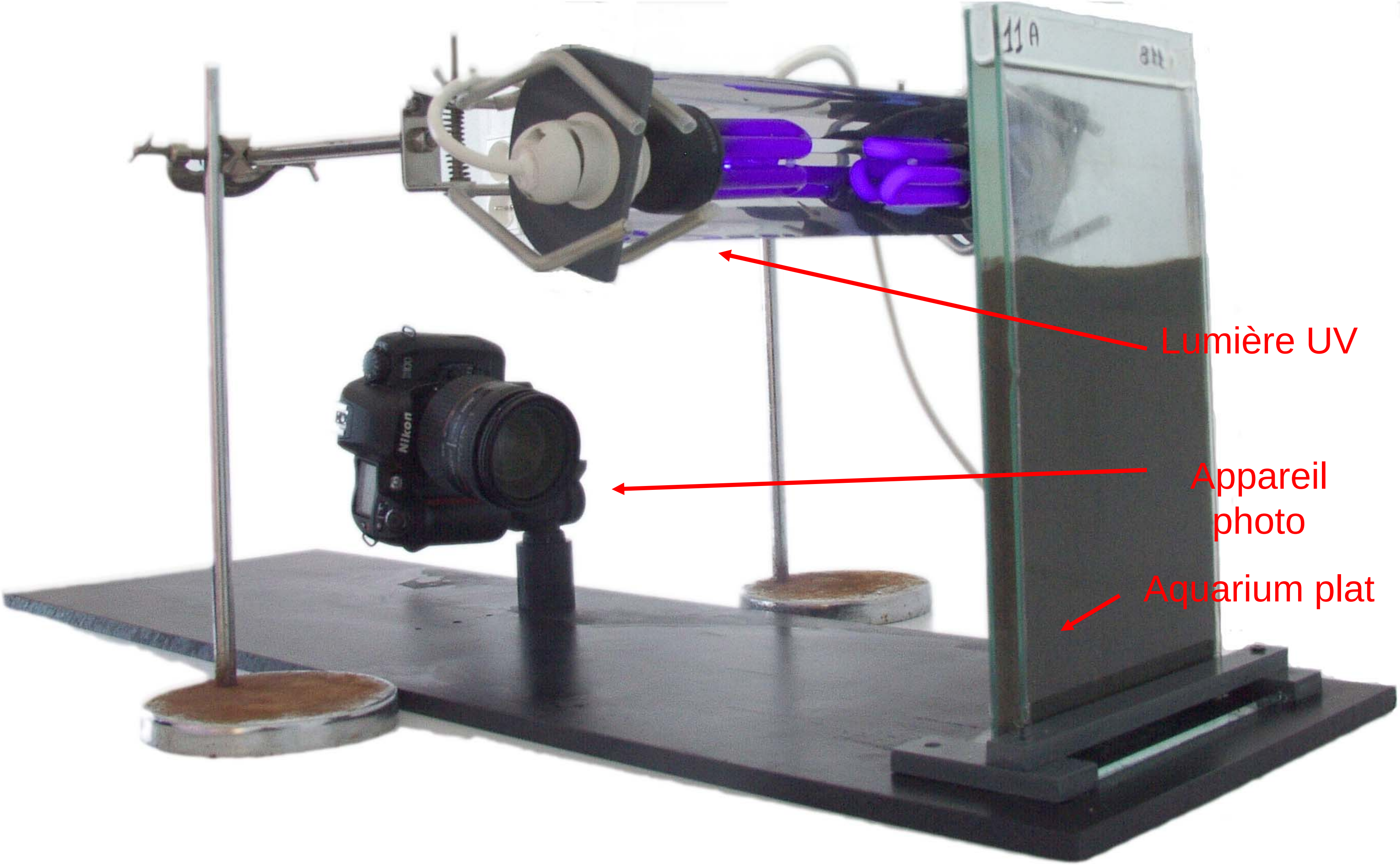

Analyze Data
Data Config Infos
X 5
Data:
C:\Data\CVABIm
AVI:
C:\Data\CVABIm
Nb AVI frames: 1631
Options
Show Back
Red
Regions Editor
Edit Region
Auto Point edito
Start 1
Search Radius
Track Window
Manual Point E
Man.Labelling
Track 0
Show all input P
Unlabel file
Region Labels
Show Time graph
10
Stop
Quit
Pts DIB
label Region Editor
Nb Rgns 0
Nb Pts 16
Existing Labels
1 - R1
227, 266
279, 252
339, 240
354, 251
372, 262
394, 287
410, 332
380, 370
Show All Rgns
Show Region
Show Label
X 0
Y 0
New Region
R1
Start Region
Region Name
Erase Rgn
0
0 = All
Save Regions
Show Back Points
1
Show
1
Cur Rgn
All
Draw selection area
Pts
Surf
Draw Area
0
0
736
568
Points in Selected Area
Erase Regions
Quit
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9(1)
2 - A10(2)
3 - A11(3)
Save Log
Erase Log
Save Pict


Analyze Data
Data Config Infos
X 2 Y 146 Level 23
Data:
C:\Data\CVABImg4\demo\Prese
Dat
AVI:
C:\Data\CVABImg4\demo\Prese
AVI
73
Nb AVI frames: 1631
Max.Data frames 1632
Sensor Time 1927.838
Options
Show Background
Show Data
Red
x4
Labels
Rgns
Regions Editor
Edit Region
Label Region
Compute
Auto Point editor
Start 1
End 1632
X 0
Y 0
Search Radius 20
Track Window
Vector Window
Manual Point Edit
Label
circle size
Man.Labelling
Unlabel
20
Track 2
Relabel
Treat Series
Show all input Points
Show Labels
Unlabel file
Colors
Erase Label 4
Region Labels
Show Time graph
M
10
Stop
Quit
Pts DIB
06/12/2005 - 06:07:20 - 736x568 pixels - 736x568 mm
Log
1 - A9(1)
2 - A10(2)
3 - A11(3)
Save Log
Erase Log
Save Pict

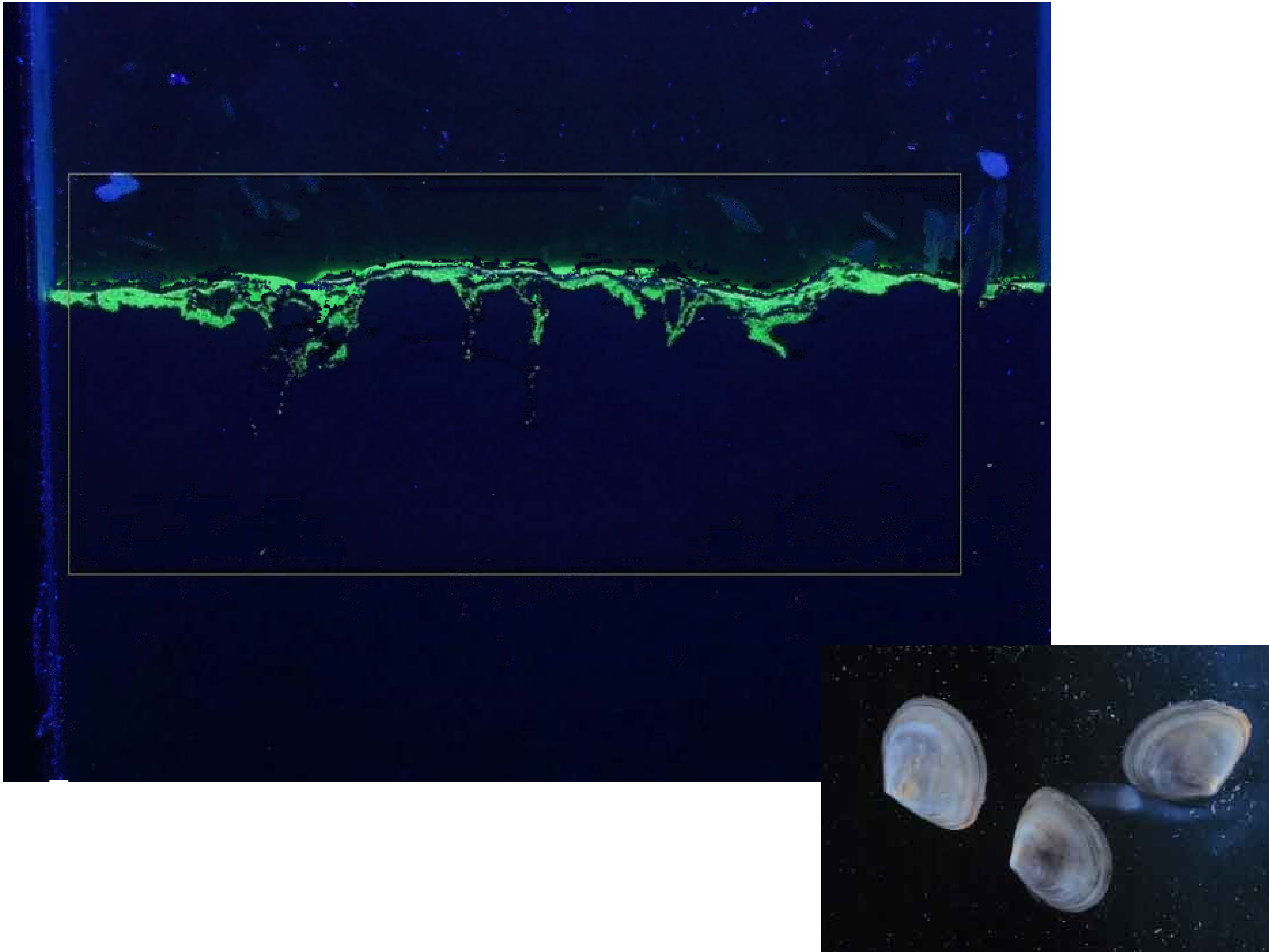
Data Export

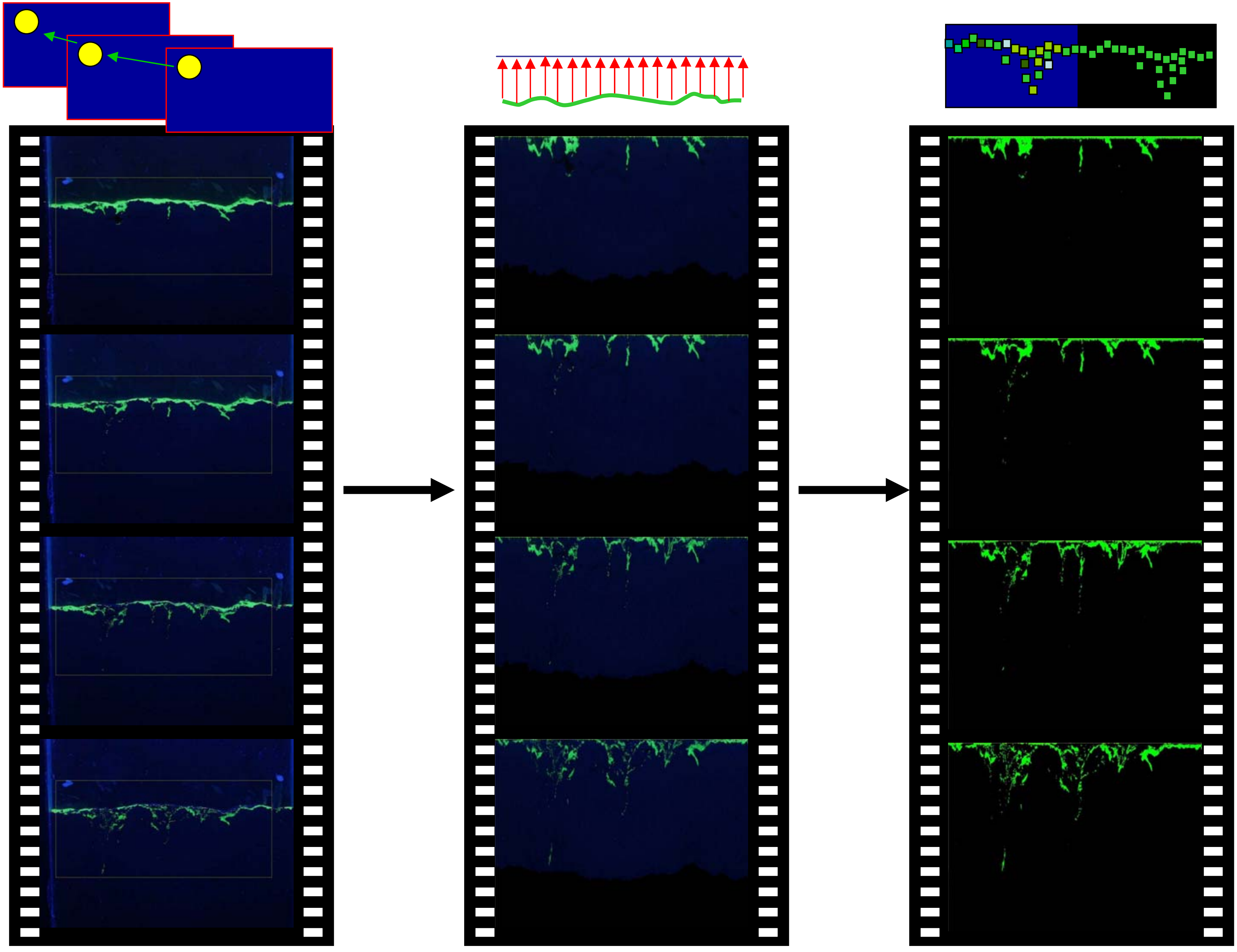
Output formats (Excel spreadsheet or statistical programs)

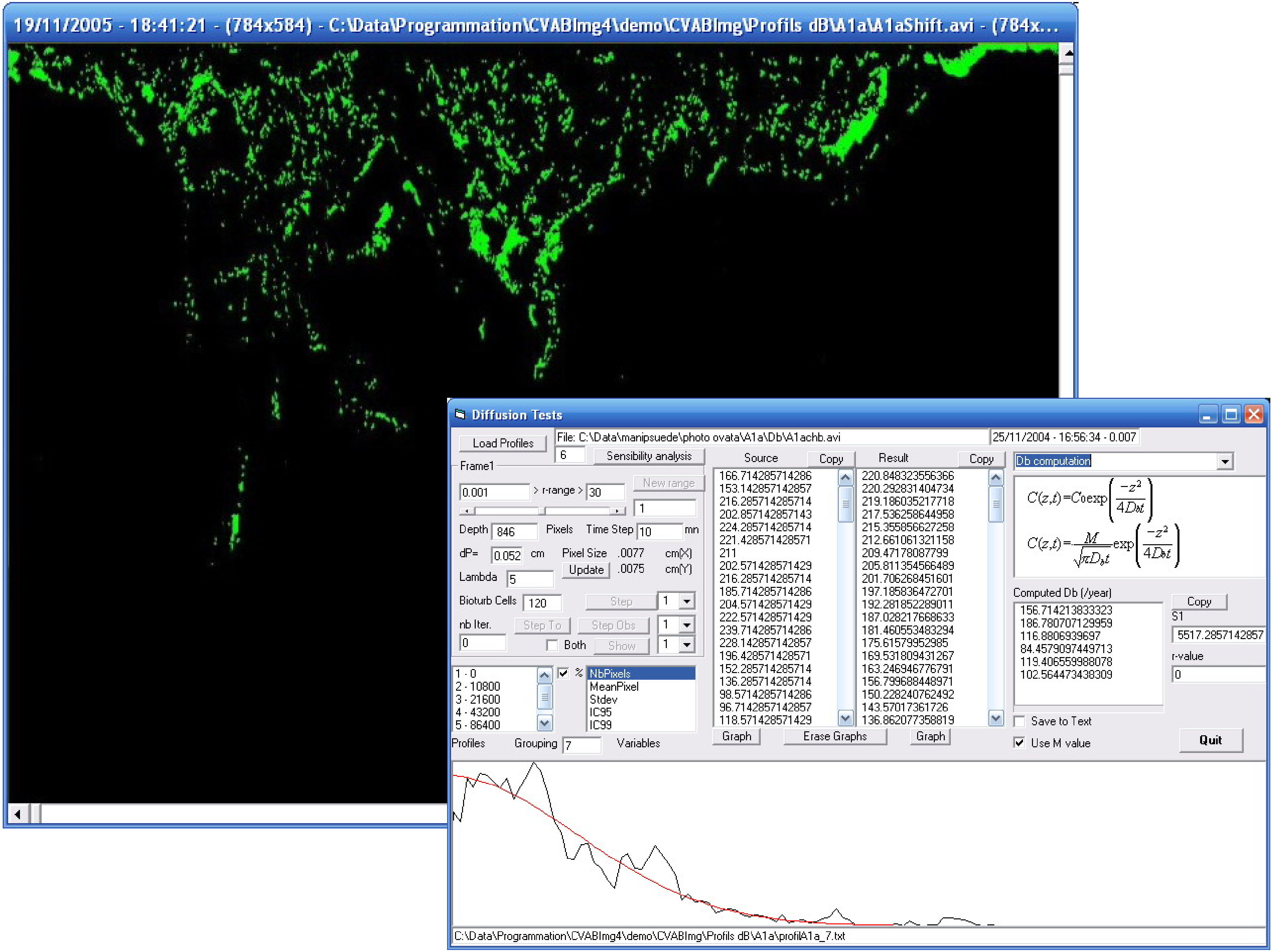
		Animal 1					Animal 2				
time (min)	time (h)	channel 1	channel 2	channel 3	Total	Activity 1/0	channel 1	channel 2	channel 3	Total	Activity 1/0
554,895	9,248	0	0	0	0,000000	FAUX	0,103375692	9,36E-02	5,59E-03	0,202560	1,000000
555,245	9,254	0	0	0	0,000000	FAUX	4,19E-02	3,77E-02	3,49E-03	0,083120	1,000000
555,594	9,260	9,08E-03	9,08E-03	0	0,018161	1,000000	6,36E-02	5,73E-02	4,89E-03	0,125727	1,000000
555,960	9,266	1,40E-03	1,40E-03	0	0,002794	1,000000	0,119440833	8,66E-02	3,00E-02	0,236088	1,000000
556,309	9,272	0	0	0	0,000000	FAUX	4,19E-03	4,19E-03	0	0,008382	1,000000
556,659	9,278	0	0	0	0,000000	FAUX	0	0	0	0,000000	FAUX
557,021	9,284	0	0	0	0,000000	FAUX	0	0	0	0,000000	FAUX
557,384	9,290	0	0	0	0,000000	FAUX	0	0	0	0,000000	FAUX
557,746	9,296	0	0	0	0,000000	FAUX	0	0	0	0,000000	FAUX
558,107	9,302	0	0	0	0,000000	FAUX	0	0	0	0,000000	FAUX
558,470	9,308	8,38E-03	8,38E-03	0	0,016764	1,000000	0	0	0	0,000000	FAUX
558,832	9,314	0	0	0	0,000000	FAUX	0	0	0	0,000000	FAUX
559,195	9,320	0	0	0	0,000000	FAUX	0	0	0	0,000000	FAUX
		0,142491	**0,138300**	**0,000000**	**0,280791**	**2,569043**	**13,051880**	**11,616494**	**1,246096**	**25,914470**	**36,416185**
		0,000092	0,000089	0,000000	0,000180		0,008383	0,007461	0,000800	0,016644	
					0,007020					0,045705	

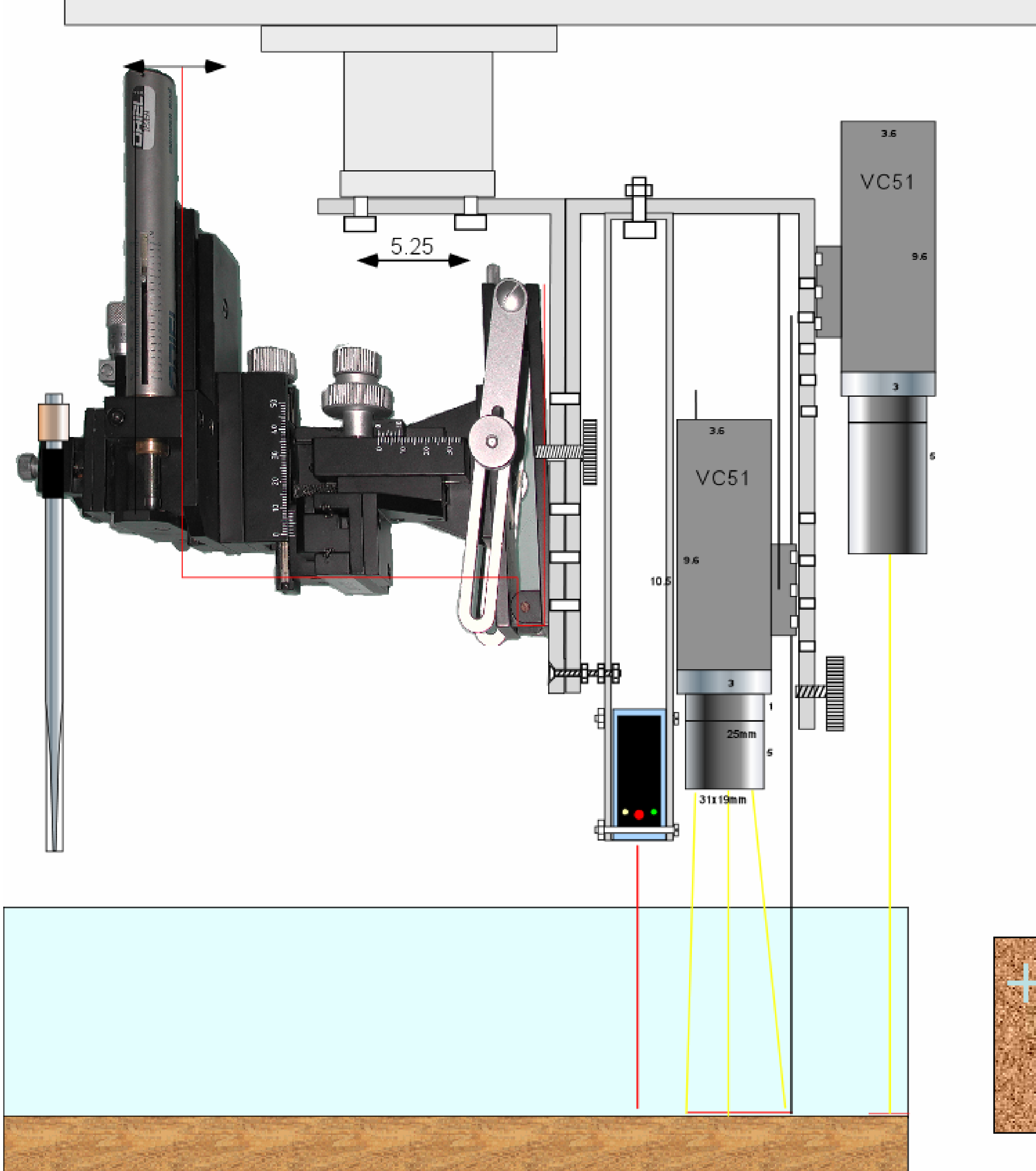


Use of luminophores to quantify (under UV light) the intensity of bioturbation related to benthic individuals



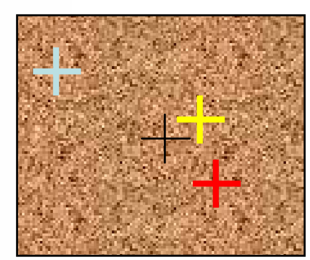


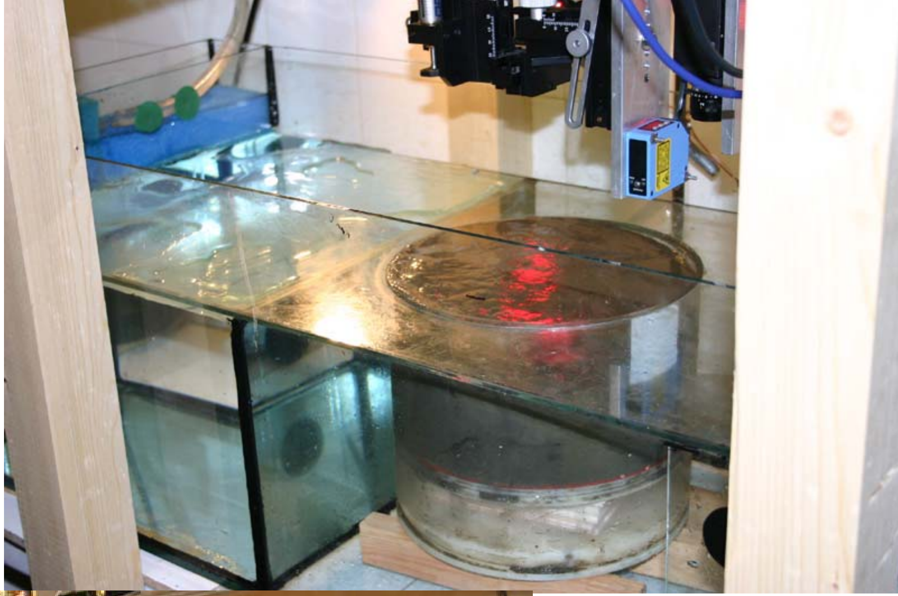

19/11/2005 - 18:41:21 - (784x584) - C:\Data\Programmation\CVABImg4\demo\CVABImg\Profils dB\A1a\A1aShift.avi - (784x...
Diffusion Tests
Load Profiles
File: C:\Data\manipsuede\photo ovata\A1a\Db\A1achb.avi
25/11/2004 - 16:56:34 - 0.007
6
Sensibility analysis
Frame1
0.001
> r-range >
30
New range
1
Depth
846
Pixels
Time Step
10
mn
dP=
0.052
cm
Pixel Size
.0077
cm(X)
Update
.0075
cm(Y)
Lambda
5
Bioturb Cells
120
Step
nb Iter.
Step To
Step Obs
0
Both
Show
1 - 0
2 - 10800
3 - 21600
4 - 43200
5 - 86400
%
NbPixels
MeanPixel
Stdev
IC95
IC99
Profiles
Grouping
7
Variables
Source
Copy
166.714285714286
153.142857142857
216.285714285714
202.857142857143
224.285714285714
221.428571428571
211
202.571428571429
216.285714285714
185.714285714286
204.571428571429
222.571428571429
239.714285714286
228.142857142857
196.428571428571
152.285714285714
136.285714285714
98.5714285714286
96.7142857142857
118.571428571429
Result
Copy
220.848323556366
220.292831404734
219.186035217718
217.536258644958
215.355856627258
212.661061321158
209.47178087799
205.811354566489
201.706268451601
197.185836472701
192.281852289011
187.028217668633
181.460553483294
175.61579952985
169.531809431267
163.246946776791
156.799688448971
150.228240762492
143.57017361726
136.862077358819
Graph
Erase Graphs
Graph
Db computation
$C(z,t)=C_0\exp\left(\frac{-z^2}{4D_bt}\right)$
$C(z,t)=\frac{M}{\sqrt{\pi D_b t}}\exp\left(\frac{-z^2}{4D_bt}\right)$
Computed Db (/year)
156.714213833323
186.780707129959
116.8806939697
84.4579097449713
119.406559988078
102.564473438309
Copy
S1
5517.2857142857
r-value
0
Save to Text
Use M value
Quit
C:\Data\Programmation\CVABImg4\demo\CVABImg\Profils dB\A1a\profilA1a_7.txt

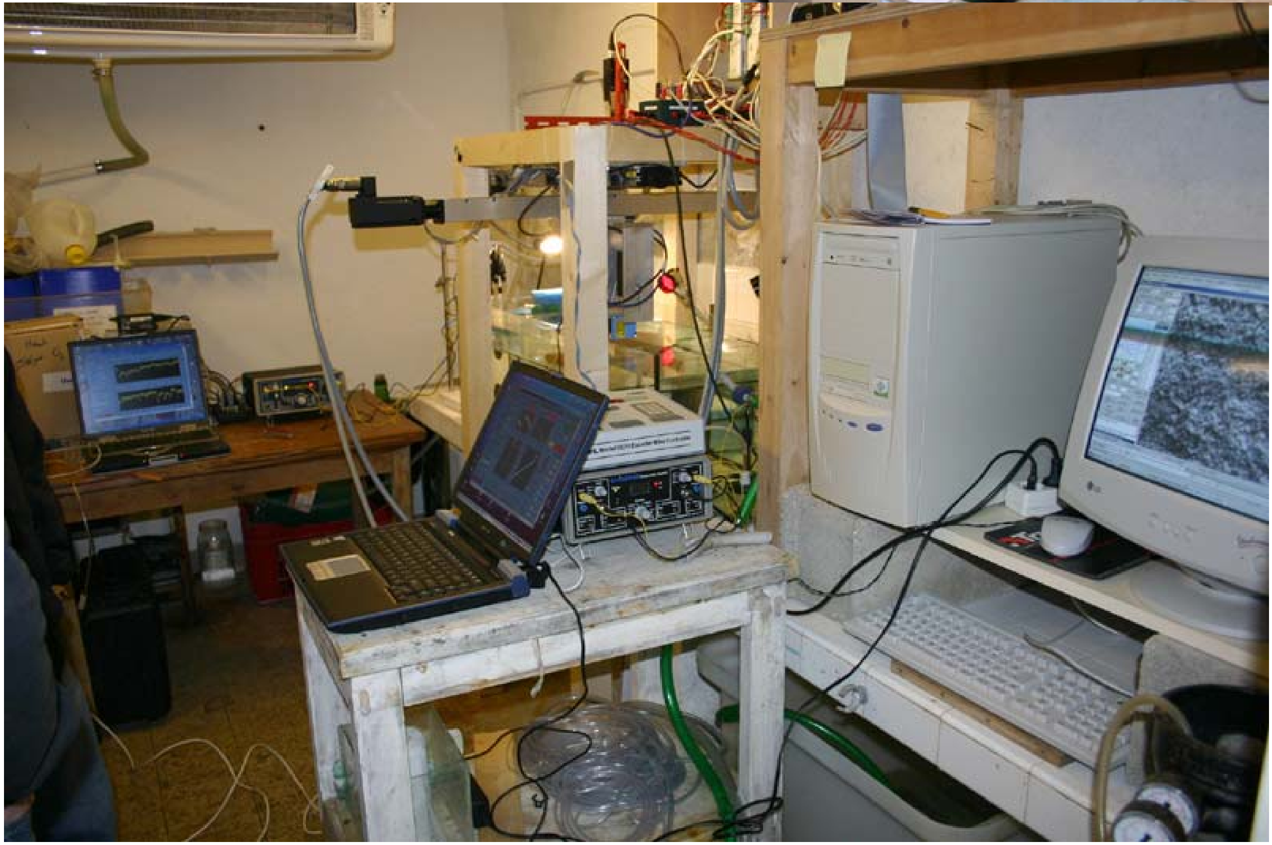


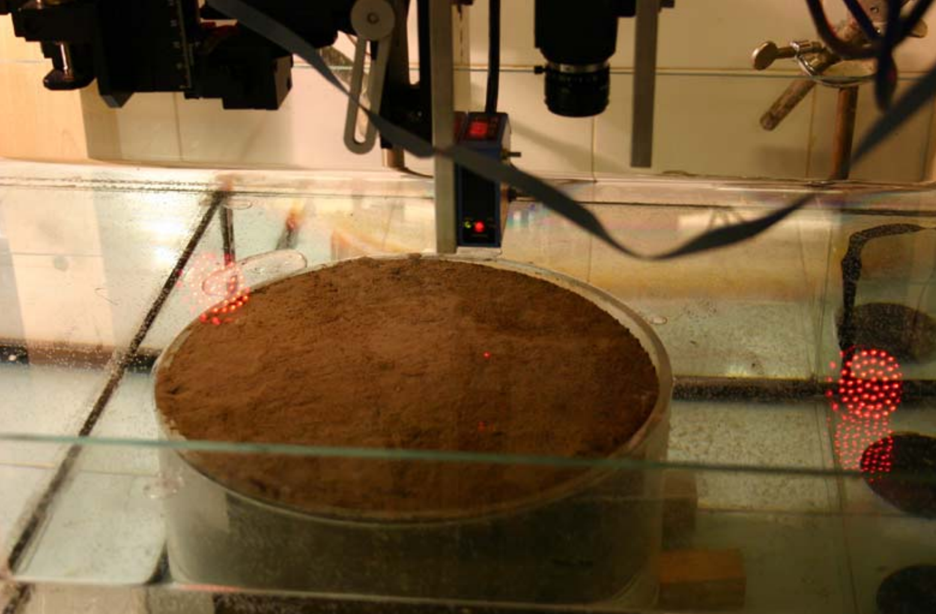
Multi-probe precision surface analysis

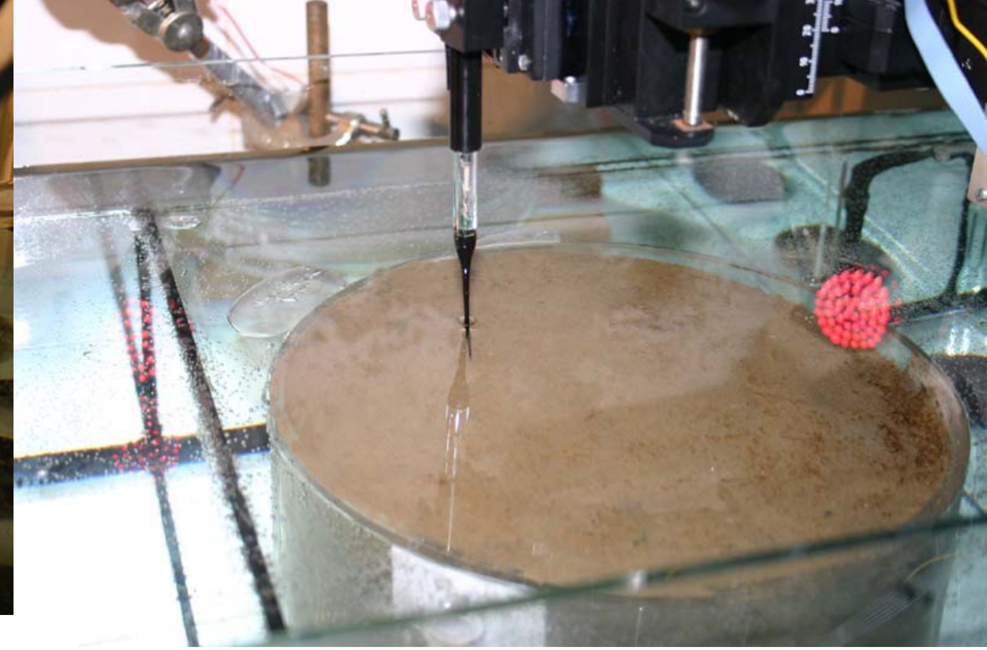
(XYZ positioning with a 1.5 micron precision)

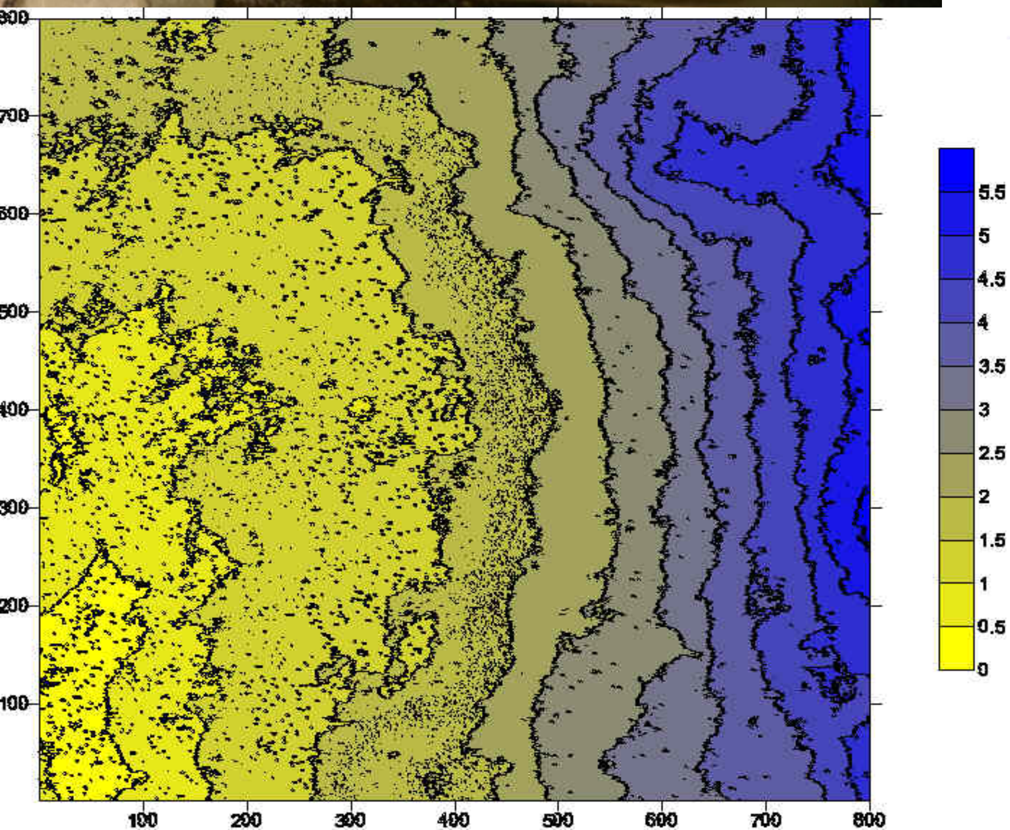


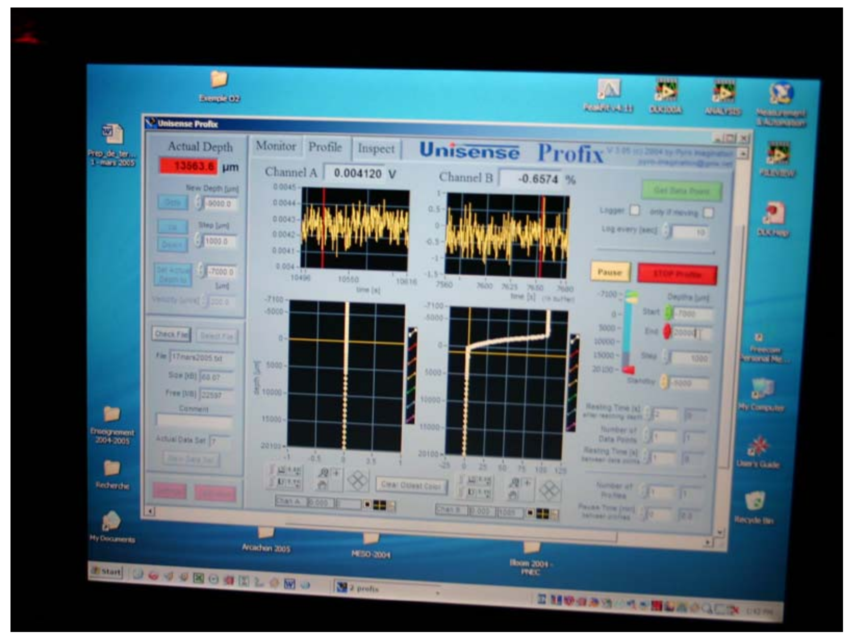


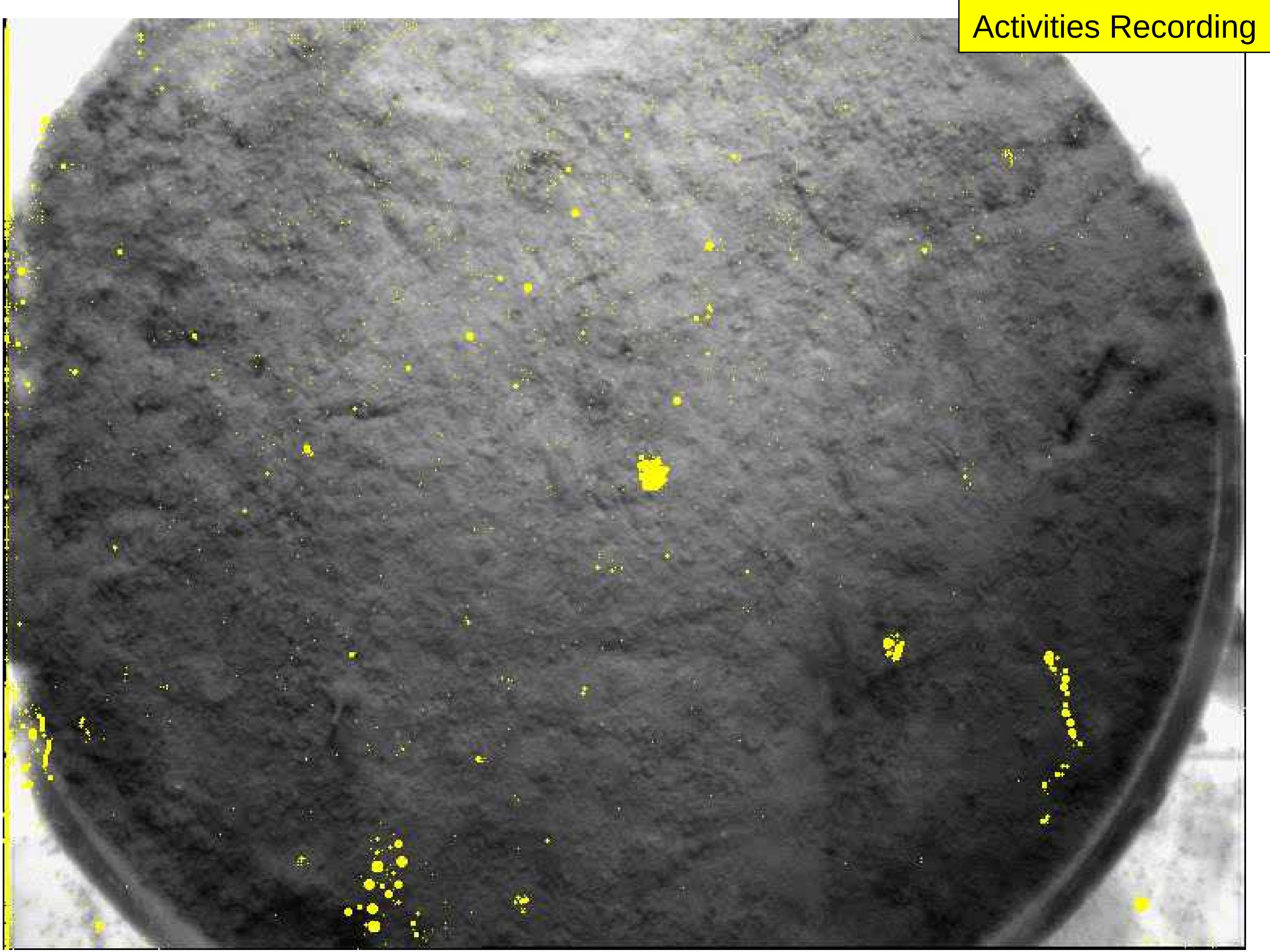


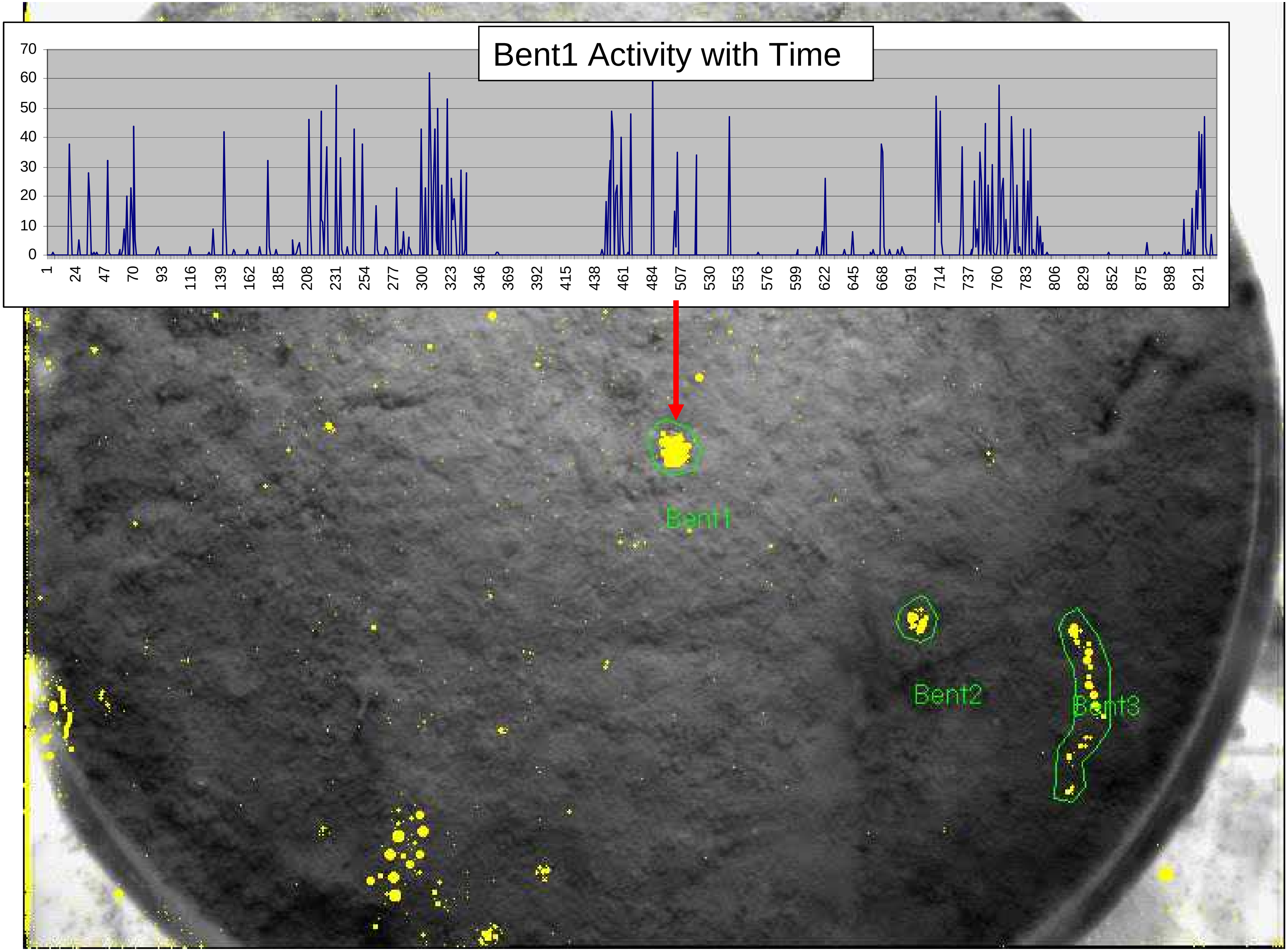


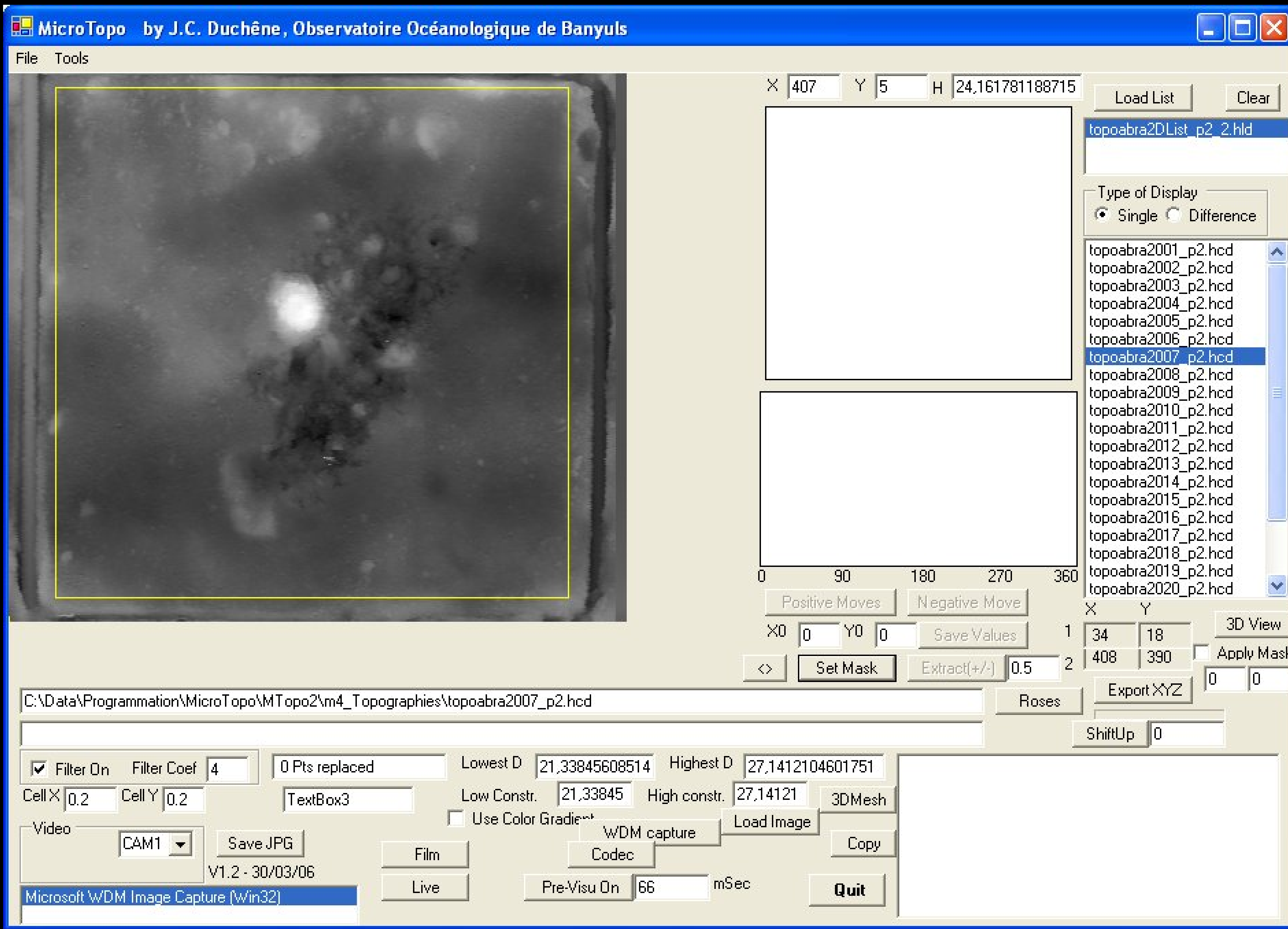


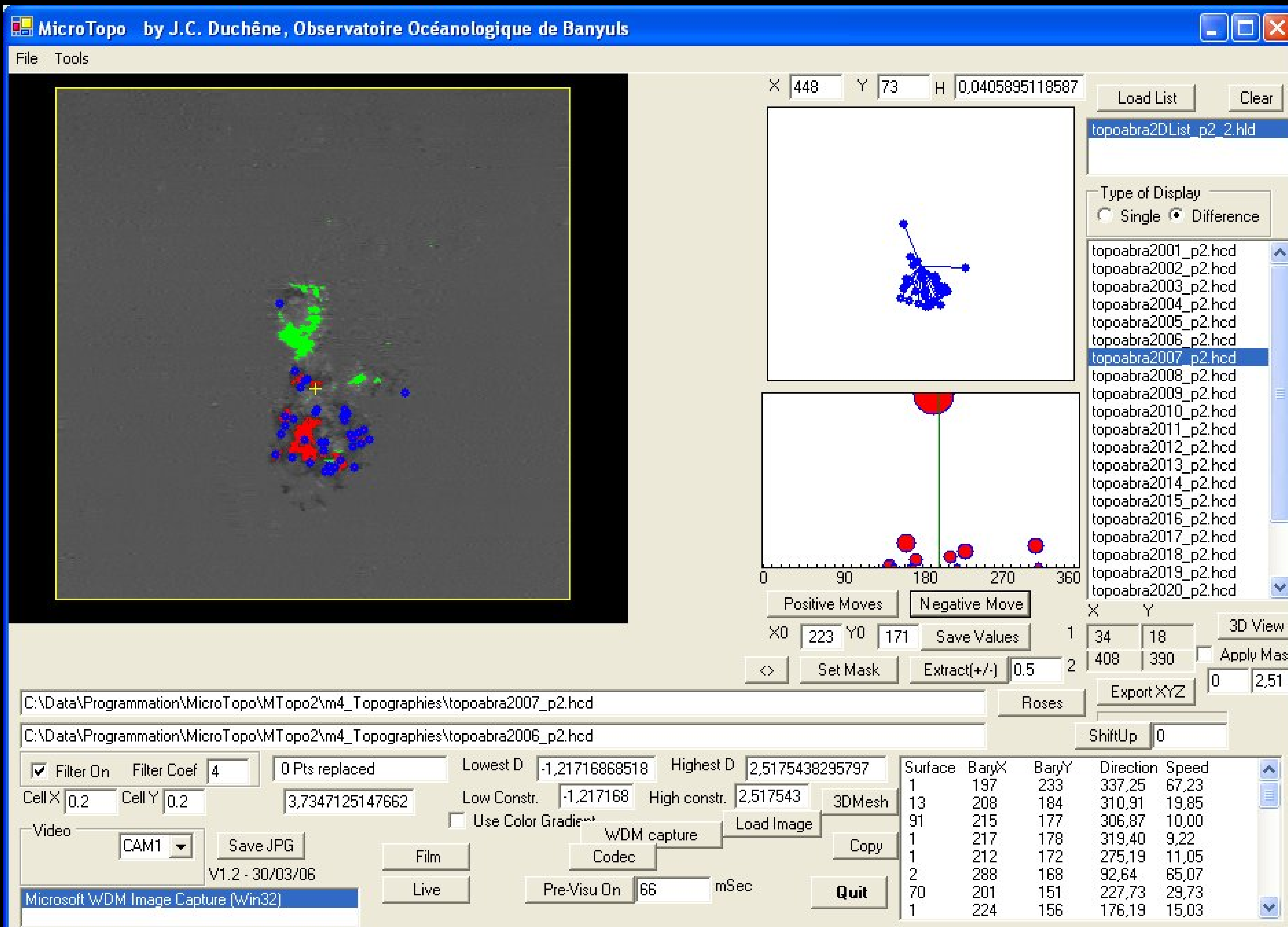

800
700
600
500
400
300
200
100
100
200
300
400
500
600
700
800
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0

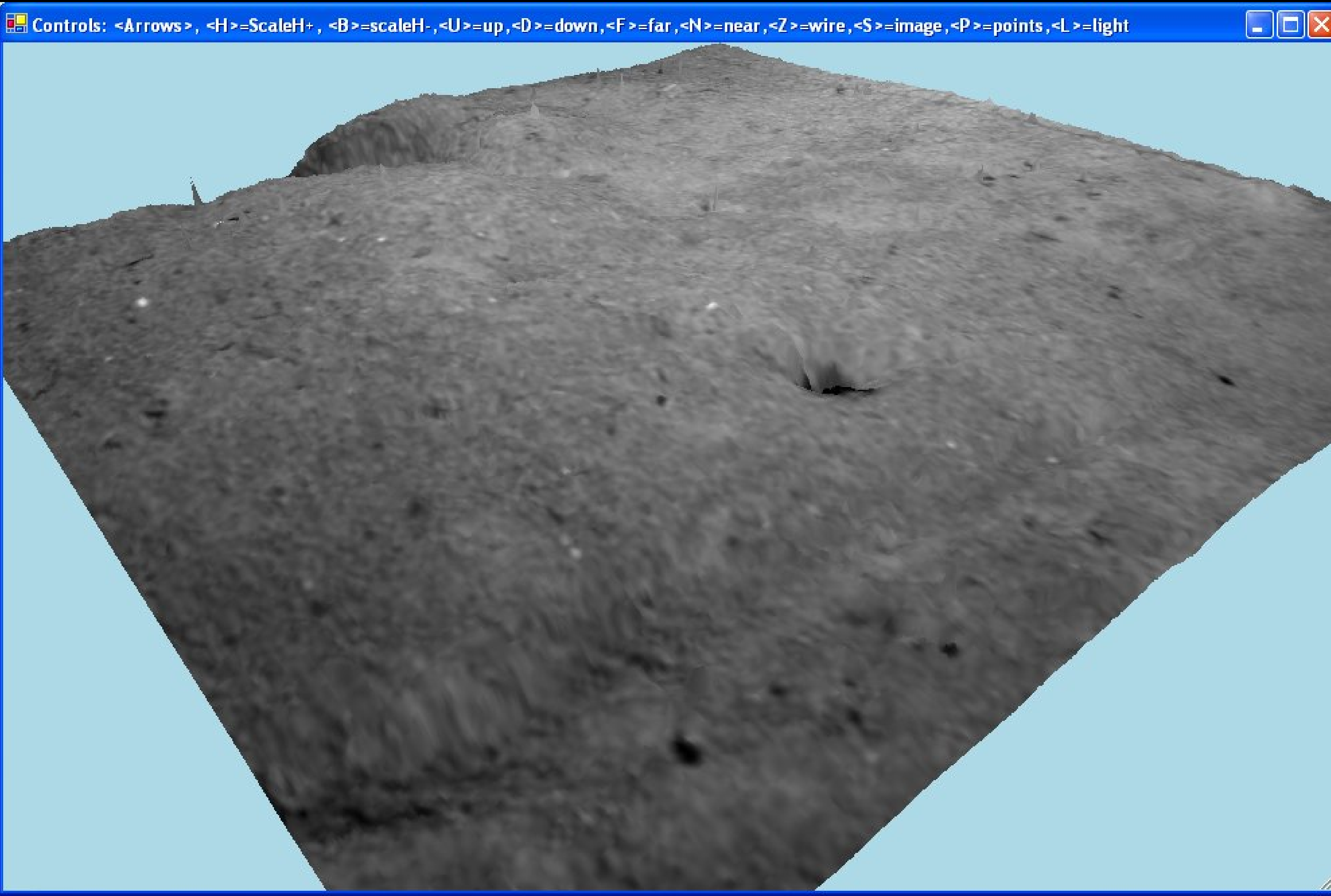

Unisense Profix
Actual Depth
Monitor
Profile
Inspect
Unisense Profix
Channel A
0.004120 V
Channel B
-0.6574 %

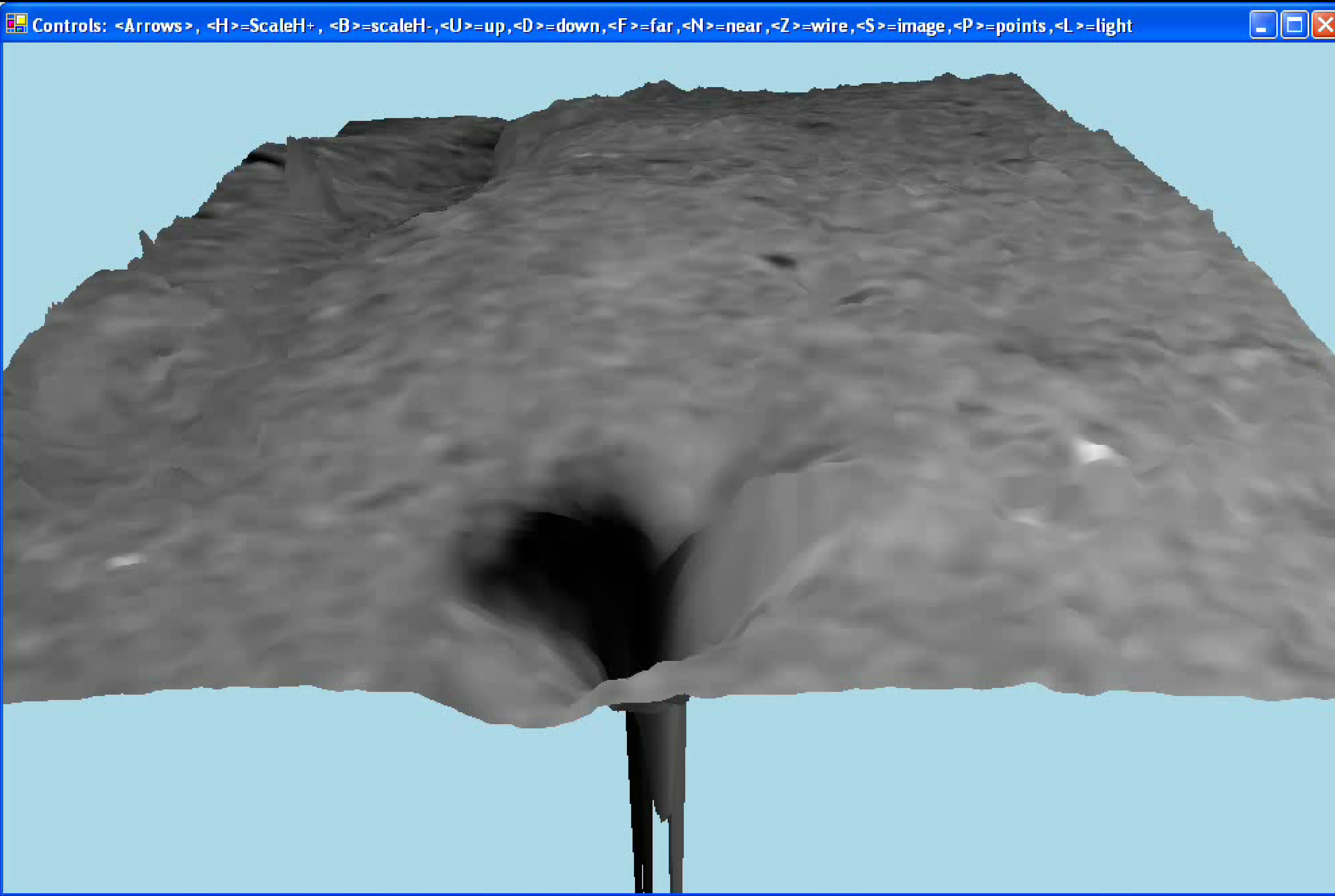

Activities Recording


Bent1 Activity with Time
70
60
50
40
30
20
10
0
1
24
47
70
93
116
139
162
185
208
231
254
277
300
323
346
369
392
415
438
461
484
507
530
553
576
599
622
645
668
691
714
737
760
783
806
829
852
875
898
921
Bent1
Bent2
Bent3


MicroTopo by J.C. Duchêne, Observatoire Océanologique de Banyuls
File
Tools
X 407
Y 5
H 24,161781188715
Load List
Clear
topoabra2DList_p2_2.hld
Type of Display
Single
Difference
topoabra2001_p2.hcd
topoabra2002_p2.hcd
topoabra2003_p2.hcd
topoabra2004_p2.hcd
topoabra2005_p2.hcd
topoabra2006_p2.hcd
topoabra2007_p2.hcd
topoabra2008_p2.hcd
topoabra2009_p2.hcd
topoabra2010_p2.hcd
topoabra2011_p2.hcd
topoabra2012_p2.hcd
topoabra2013_p2.hcd
topoabra2014_p2.hcd
topoabra2015_p2.hcd
topoabra2016_p2.hcd
topoabra2017_p2.hcd
topoabra2018_p2.hcd
topoabra2019_p2.hcd
topoabra2020_p2.hcd
0 90 180 270 360
Positive Moves
Negative Move
X0 0
Y0 0
Save Values
1
2
X
Y
34 18
408 390
3D View
Apply Mask
Set Mask
Extract(+/-)
0.5
0
0
Export XYZ
C:\Data\Programmation\MicroTopo\MTopo2\m4_Topographies\topoabra2007_p2.hcd
Roses
ShiftUp
0
Filter On
Filter Coef 4
0 Pts replaced
Lowest D 21,33845608514
Highest D 27,1412104601751
Cell X 0.2
Cell Y 0.2
TextBox3
Low Constr. 21,33845
High constr. 27,14121
3DMesh
Use Color Gradient
WDM capture
Load Image
Video
CAM1
Save JPG
Film
Codec
Copy
V1.2 - 30/03/06
Live
Pre-Visu On
66
mSec
Quit
Microsoft WDM Image Capture (Win32)


MicroTopo by J.C. Duchêne, Observatoire Océanologique de Banyuls
File Tools
X 448 Y 73 H 0,0405895118587
Load List
Clear
topoabra2DList_p2_2.hld
Type of Display
Single Difference
topoabra2001_p2.hcd
topoabra2002_p2.hcd
topoabra2003_p2.hcd
topoabra2004_p2.hcd
topoabra2005_p2.hcd
topoabra2006_p2.hcd
topoabra2007_p2.hcd
topoabra2008_p2.hcd
topoabra2009_p2.hcd
topoabra2010_p2.hcd
topoabra2011_p2.hcd
topoabra2012_p2.hcd
topoabra2013_p2.hcd
topoabra2014_p2.hcd
topoabra2015_p2.hcd
topoabra2016_p2.hcd
topoabra2017_p2.hcd
topoabra2018_p2.hcd
topoabra2019_p2.hcd
topoabra2020_p2.hcd
0 90 180 270 360
Positive Moves
Negative Move
X0 223 Y0 171
Save Values
X Y
1 34 18
2 408 390
3D View
Apply Mask
<>
Set Mask
Extract(+/-)
0.5
0 2,51
Export XYZ
C:\Data\Programmation\MicroTopo\MTopo2\m4_Topographies\topoabra2007_p2.hcd
Roses
C:\Data\Programmation\MicroTopo\MTopo2\m4_Topographies\topoabra2006_p2.hcd
ShiftUp 0
Filter On
Filter Coef 4
0 Pts replaced
Lowest D -1,21716868518
Highest D 2,5175438295797
Cell X 0.2 Cell Y 0.2
3,7347125147662
Low Constr. -1,217168
High constr. 2,517543
3DMesh
Use Color Gradient
WDM capture
Load Image
Video
CAM1
Save JPG
Film
Codec
Copy
V1.2 - 30/03/06
Live
Pre-Visu On 66 mSec
Quit
Microsoft WDM Image Capture (Win32)
Surface BaryX BaryY Direction Speed
1 197 233 337,25 67,23
13 208 184 310,91 19,85
91 215 177 306,87 10,00
1 217 178 319,40 9,22
1 212 172 275,19 11,05
2 288 168 92,64 65,07
70 201 151 227,73 29,73
1 224 156 176,19 15,03


Controls: <Arrows>, <H>=ScaleH+, <B>=scaleH-,<U>=up,<D>=down,<F>=far,<N>=near,<Z>=wire,<S>=image,<P>=points,<L>=light


Controls: <Arrows>, <H>=ScaleH+, <B>=scaleH-,<U>=up,<D>=down,<F>=far,<N>=near,<Z>=wire,<S>=image,<P>=points,<L>=light