



# Icy

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the AIQ team

OME User's Meeting  
Institut Pasteur June 18-19 2012

# Icy ?

Open bioimage informatics platform.

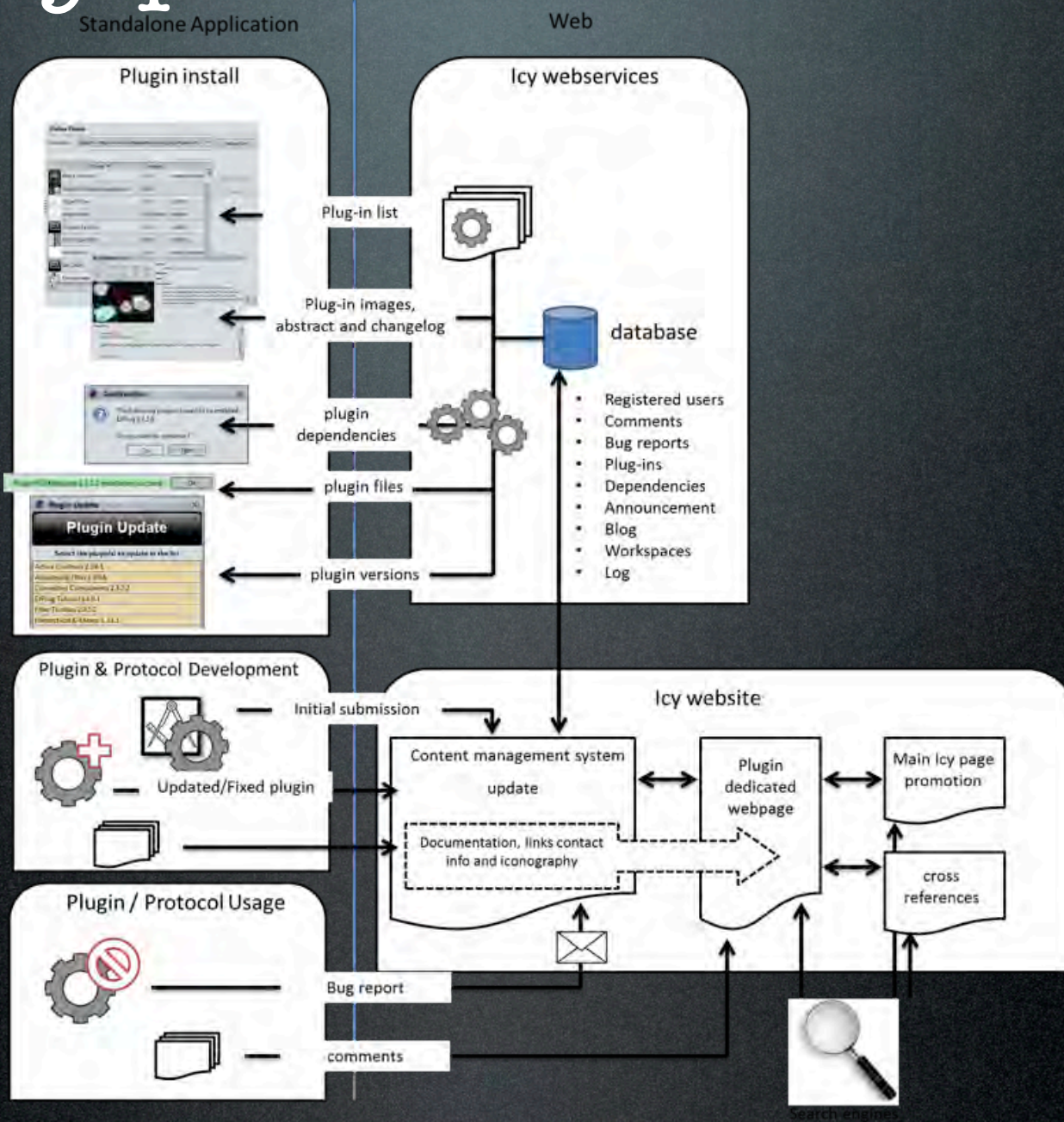
Icy is designed to take users and developers into equal consideration.

User oriented solution with the capability to reuse, combine and adapt existing tools.

High-end visual programming framework.

A central resource web repository bundled with a rich client application.

# The Icy platform



# Website

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**ICY**

## ICY: The open source community software for bio-imaging

Over the past decades the image analysis community has put substantial efforts into developing algorithms for various applications, yet their visibility often remained clustered to a handful of people, due to lack of proper means of communication and advertising. Meanwhile, numerous experts in the biology community have been turning to image analysis to answer their questions, and yet often fail to find adapted (or affordable) tools to fit their needs.

ICY provides an integrated platform that aims at bridging the gap between developers and users, by combining: a) an open-source image analysis software, offering a powerful and flexible environment for developers such as applied mathematicians to write algorithms fast and efficiently; b) a common set of tools to view and manipulate data, and a set of plugins to perform specific quantification or analysis on images; c) a community-based website centralizing all plugins and resources to facilitate their management and maximize their visibility towards users.

<http://icy.bioimageanalysis.org>

**Download Icy**

News

- 27 Jan: S4445 Segmentation updated to v1.0.0.4
- 27 Jan: S4445 ImageJ updated to v1.0.0.6
- 27 Jan: Vars updated to v0.2.1.0
- 27 Jan: ScreeN Viewer updated to v0.0.1.7
- 27 Jan: ScreeN Viewer updated to v0.0.1.6
- 27 Jan: ScreeN Viewer updated to v0.0.1.5b
- 26 Jan: Vars updated to v0.2.0.0
- 26 Jan: Vars updated to v0.1.0.0
- 26 Jan: ScreeN Viewer updated to v0.0.1.4
- 26 Jan: ScreeN Viewer updated to v0.0.1.3
- 26 Jan: ScreeN Viewer updated to v0.0.1.1
- 26 Jan: New plugin: ScreeN Viewer.
- 26 Jan: New plugin: Vars.
- 24 Jan: Active Categories updated to v2.3.3.0
- 23 Jan: Active Categories updated to v2.3.2.0

Automatic bug report

icy.bioimageanalysis.org

View Edit History Print

## Icy 4 Eclipse

**Icy4Eclipse**

This Eclipse plugin provides a nice integration of the ICY image analysis software into the well known Java development platform.

- Start / stop Icy from Eclipse
- Debug your plugins
- Interact with plugins downloaded from the main repository
- New Icy project wizards (you can even add your own templates)

Summary of this page :

- Last news
- Downloads
- Quickstart
- Creating my first plugin
- Working with other plugins
- Migrating an existing project
- For advanced users
- Acknowledgements

**Last news**

- 2012-02-21 | v0.3.4 - ability to remove any jar file from the Icy run classpath (check configuration informations here or see this page)
- 2011-10-02 | v0.3.3 - ability to start icy with the Icy-kernel project (see this page)
- 2011-09-08 | v0.3.2 - first stable release

**Downloads**

This plugin is open source and provided under the GPL V3 licence. It has been tested on Helios and Indigo versions of Eclipse.

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## Icy 1.2.3.1 is out!

26 Apr 2012

Icy 1.2.3.1 brings a lot of improvements as the ImageJ integration. One of the most useful new feature is that you can now convert ImageJ image to Icy sequence and vice-versa and ROI are preserved when possible. This way you can use ImageJ for some operations not yet supported in Icy and then turn back to Icy for your final processing.

**Blog**

- 26 Apr 2012: Icy 1.2.3.1 is out!
- 14 Feb 2012: Icy 1.2.2.0 is out!
- 11 Jan 2012: Icy 1.2.0.0 is out!
- 22 Nov 2011: Micro-Manager for Icy: the microscopy plugin
- 18 Nov 2011: Icy 4 Eclipse
- 14 Sep 2011: Version 1.1 is out!
- 23 Aug 2011: New 2D view for next version 1.1.0.0

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## icy support forum

Full window forum

Register • FAQ • Search • Login

View unanswered posts | View active topics It is currently 30 Apr 2012 05:26

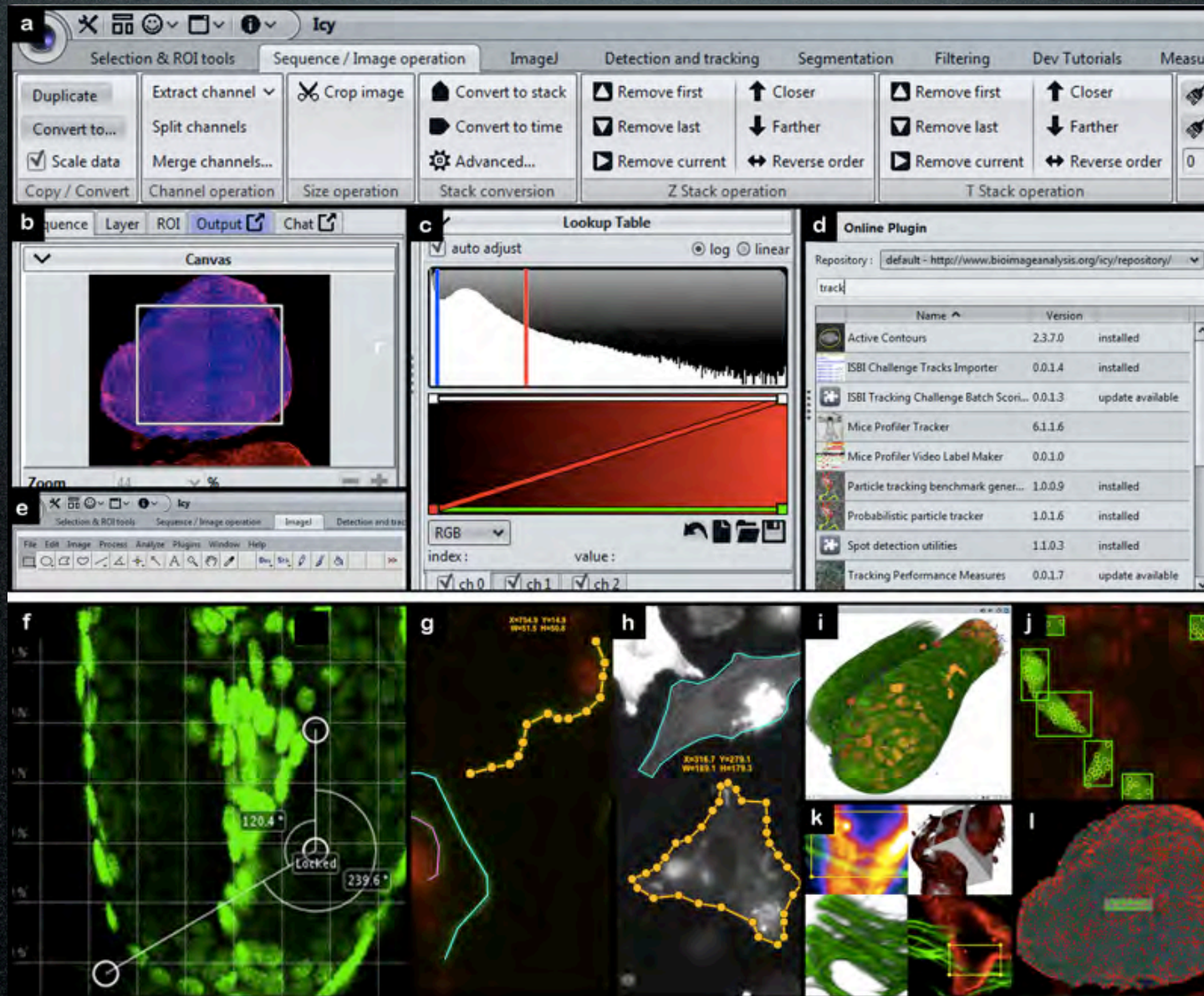
Board index All times are UTC

| Forum  | Topics | Posts | Last post                  |
|--|--------|-------|----------------------------|
| User Forum   | 28     | 110   | 28 Apr 2012 09:56<br>Staff |
| ICY Kernel Development<br>Kernel Development and web site design | 47     | 159   | 09 May 2011 12:51<br>Staff |
| Plugin Development   | 22     | 84    | 13 Mar 2012 19:57<br>Staff |

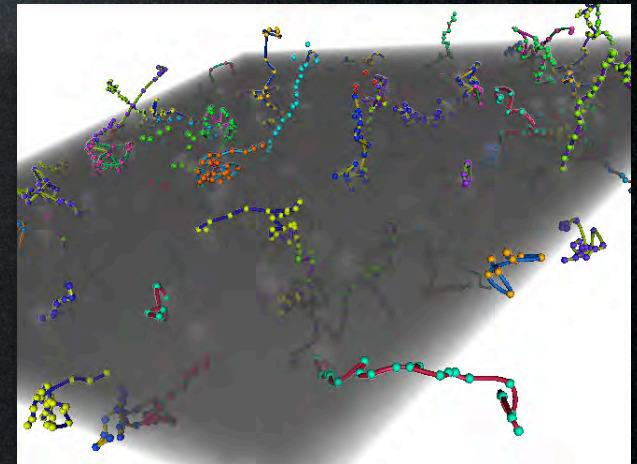
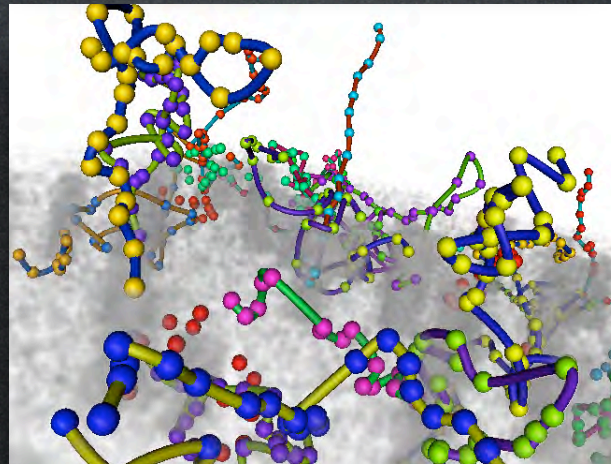
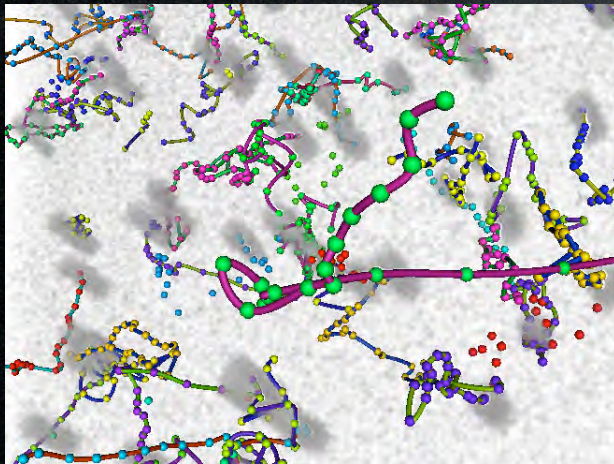
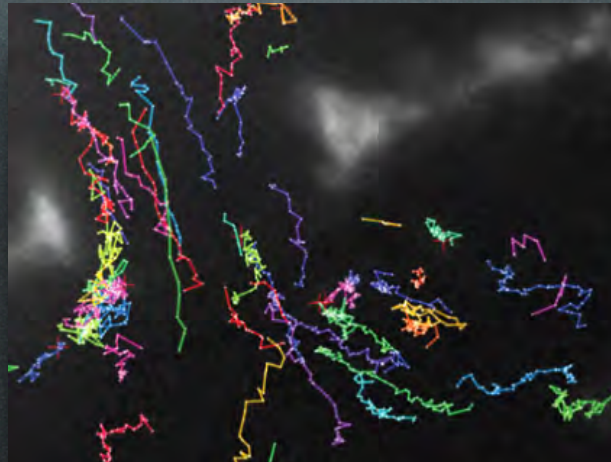
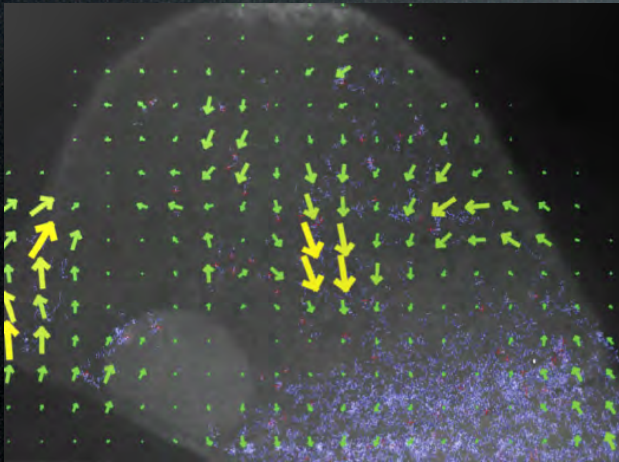
Delete all board cookies | The team

Board index All times are UTC

# Graphical interface



# Visualization



# Multiple ROIs / Synchronized multiplied viewers

The image displays a software interface with three main windows and an Inspector panel. The windows are titled "7-7 402 11 8 Fos 1 x4 Icy" and show different views of a brain slice with multiple Regions of Interest (ROIs) defined by colored lines (green, red, blue, purple, yellow). The Inspector panel on the right shows a "Canvas" view of the brain slice, a "Zoom" of 75%, a "Rotation" of 0 degrees, and a "Lookup Table" with a histogram and a color scale. The status bar at the bottom indicates "Used: 212.2 MB (Max: 1792.0 MB)" and "CPU Load: 6%".

7-7 402 11 8 Fos 1 x4 Icy

7-7 402 11 8 Fos 1 x4 Icy

Inspector

Sequence Layer ROI Output Chat

Canvas

Zoom 75 %

Rotation 0 °

Lookup Table

Refresh  Bounds  log  linear

Used: 212.2 MB (Max: 1792.0 MB)  
CPU Load: 6%

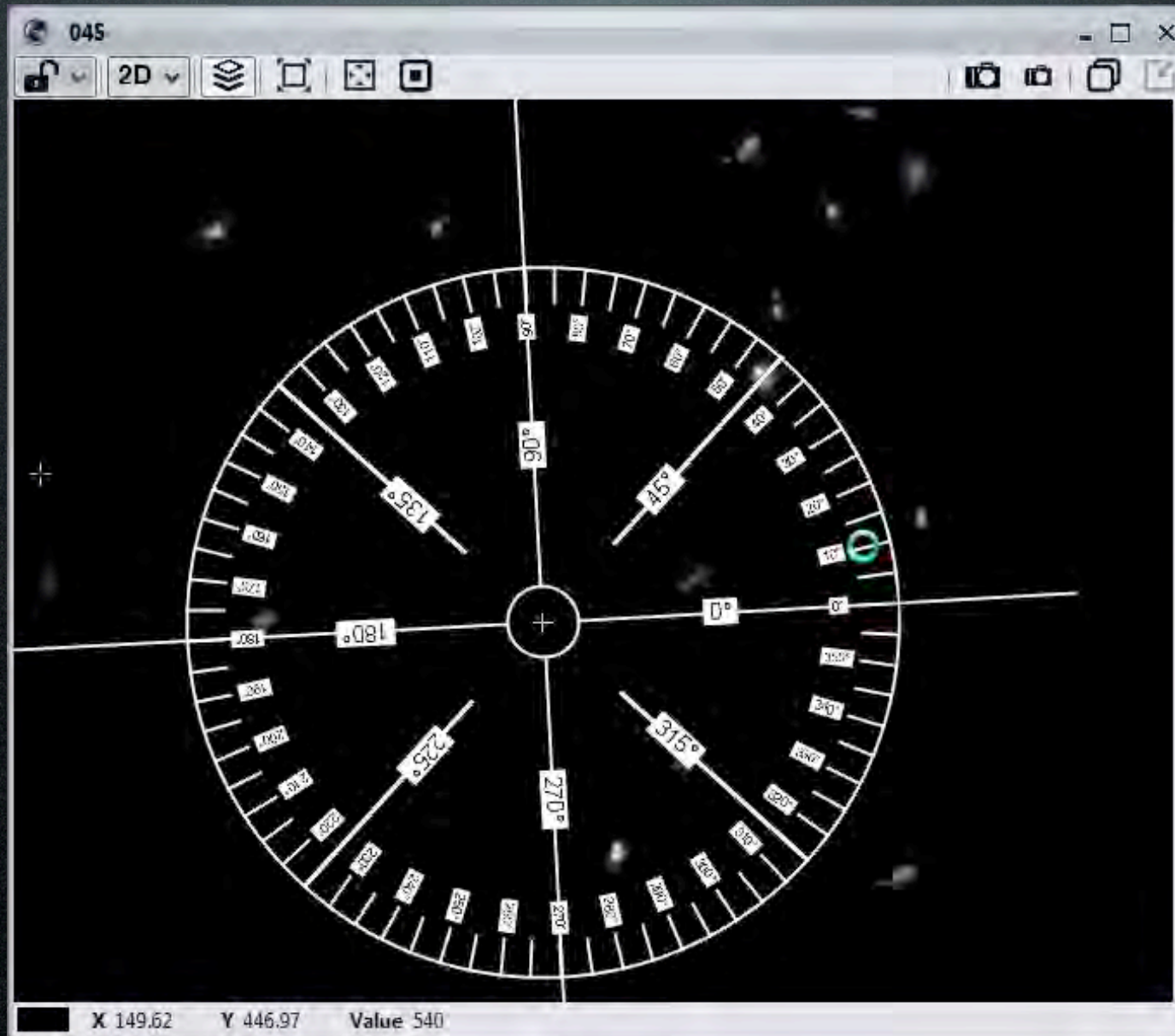
X 1233.9 Y 968.56 Value 255 : 255 : 255

X=1106.6 Y=58.4  
W=697.8 H=558.6

X 1312.1 Y 55.551 Value 213 : 187 : 153

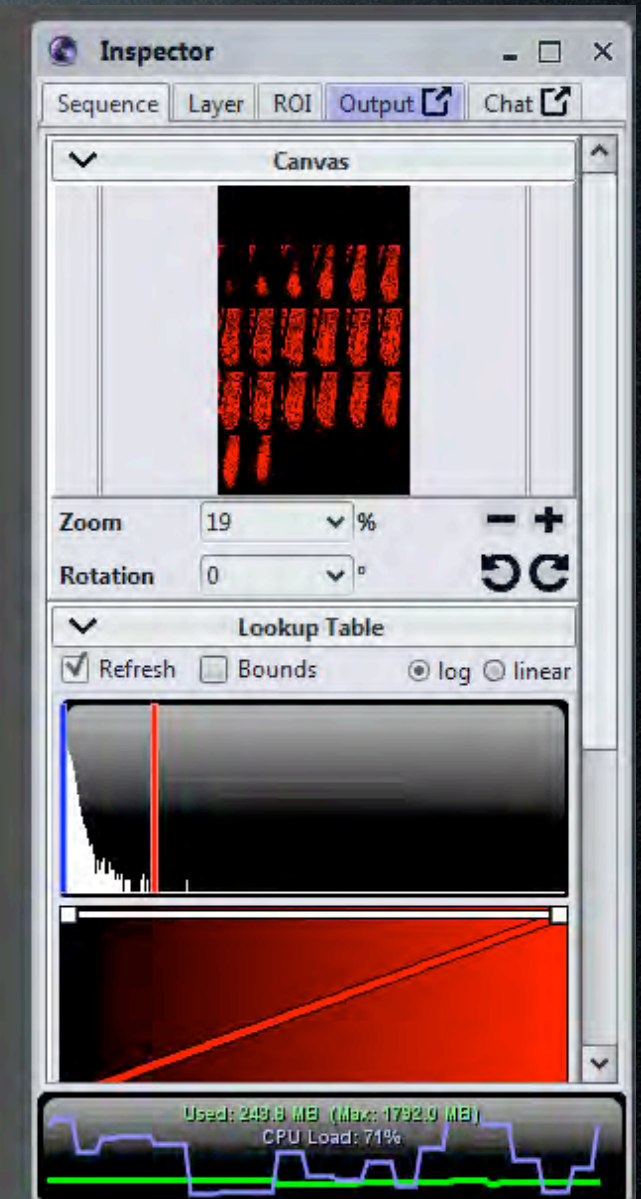
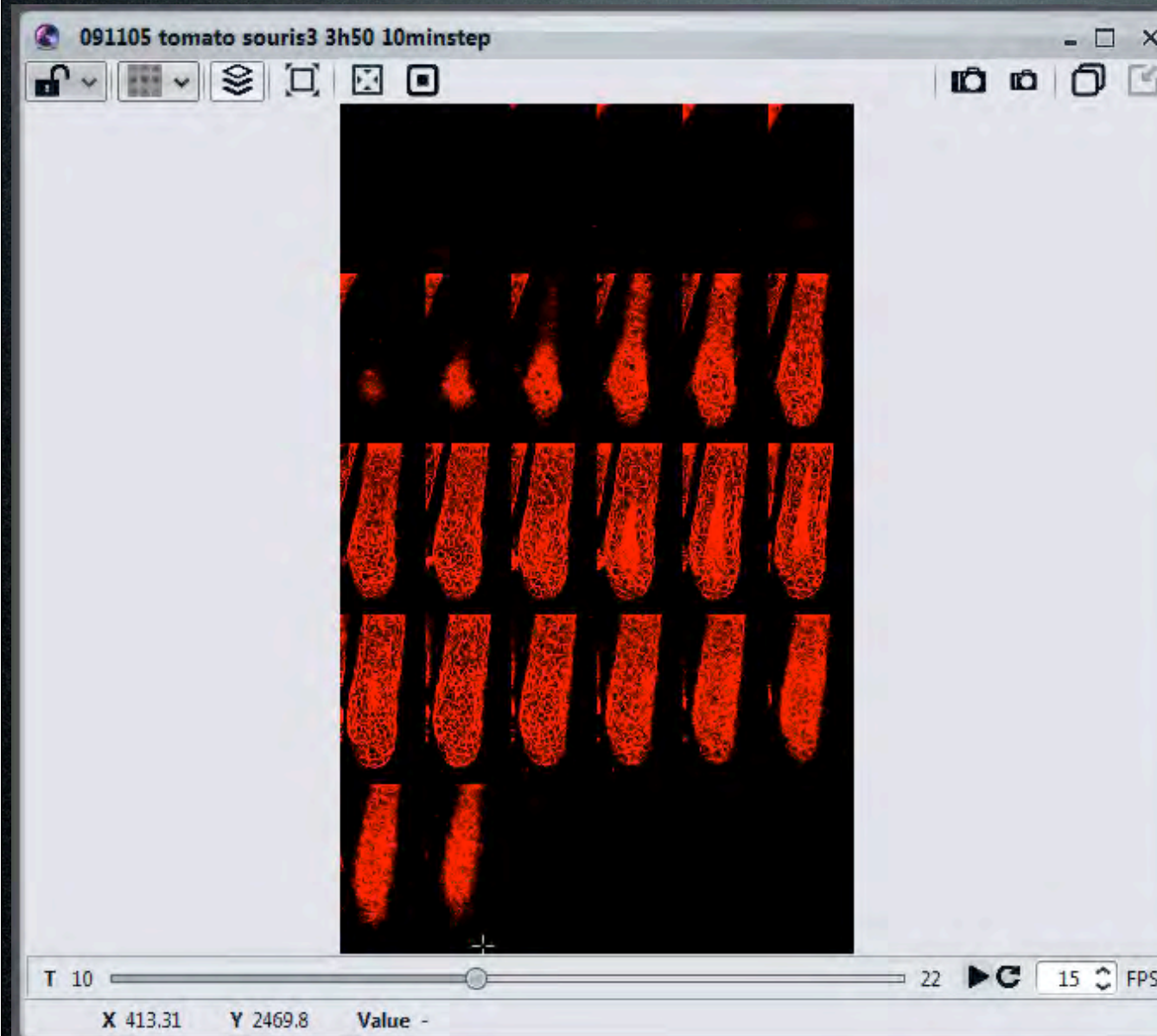
X 1312.1 Y 55.551 Value 212 : 186 : 155

# Level of detail





# User customizable interface



# Plug it anywhere... but at the right place

The image shows a screenshot of the Icy software interface. The main window has a menu bar with options like 'Selection & ROI', 'Sequence / Image oper', 'ImageJ', 'Detection and trac', 'Segmentation', 'Filtering', 'Dev Tutori', 'Measureme', 'Toto', and 'Plugins'. Below the menu bar is a toolbar with icons for 'Open', 'Select', 'Move', 'Point', 'Line', 'Polyline', 'Rectangle', 'Ellipse', 'Polygon', and 'Area'. A blue box labeled 'File Importer/Exporter' points to the 'Open' icon. Another blue box labeled 'ROI' points to the 'Area' icon. A third blue box labeled 'Classic plug-ins' points to the 'Plugins' menu. The interface is divided into several panels. On the left, there is a 'File Importer/Exporter' panel. In the center, there is a 'Viewer' panel showing a 3D rendering of a tomato. On the right, there is a 'Look-up table' panel showing a graph and a 'Sequence Informations' panel showing system usage. A blue box labeled 'Look-up table' points to the graph. A blue box labeled 'Viewer' points to the 3D rendering. A blue box labeled 'ROI' points to the 'Area' icon in the toolbar. A blue box labeled 'Classic plug-ins' points to the 'Plugins' menu. A blue box labeled 'File Importer/Exporter' points to the 'Open' icon. A blue box labeled 'Look-up table' points to the graph. A blue box labeled 'Viewer' points to the 3D rendering. A blue box labeled 'ROI' points to the 'Area' icon. A blue box labeled 'Classic plug-ins' points to the 'Plugins' menu.

File Importer/Exporter

ROI

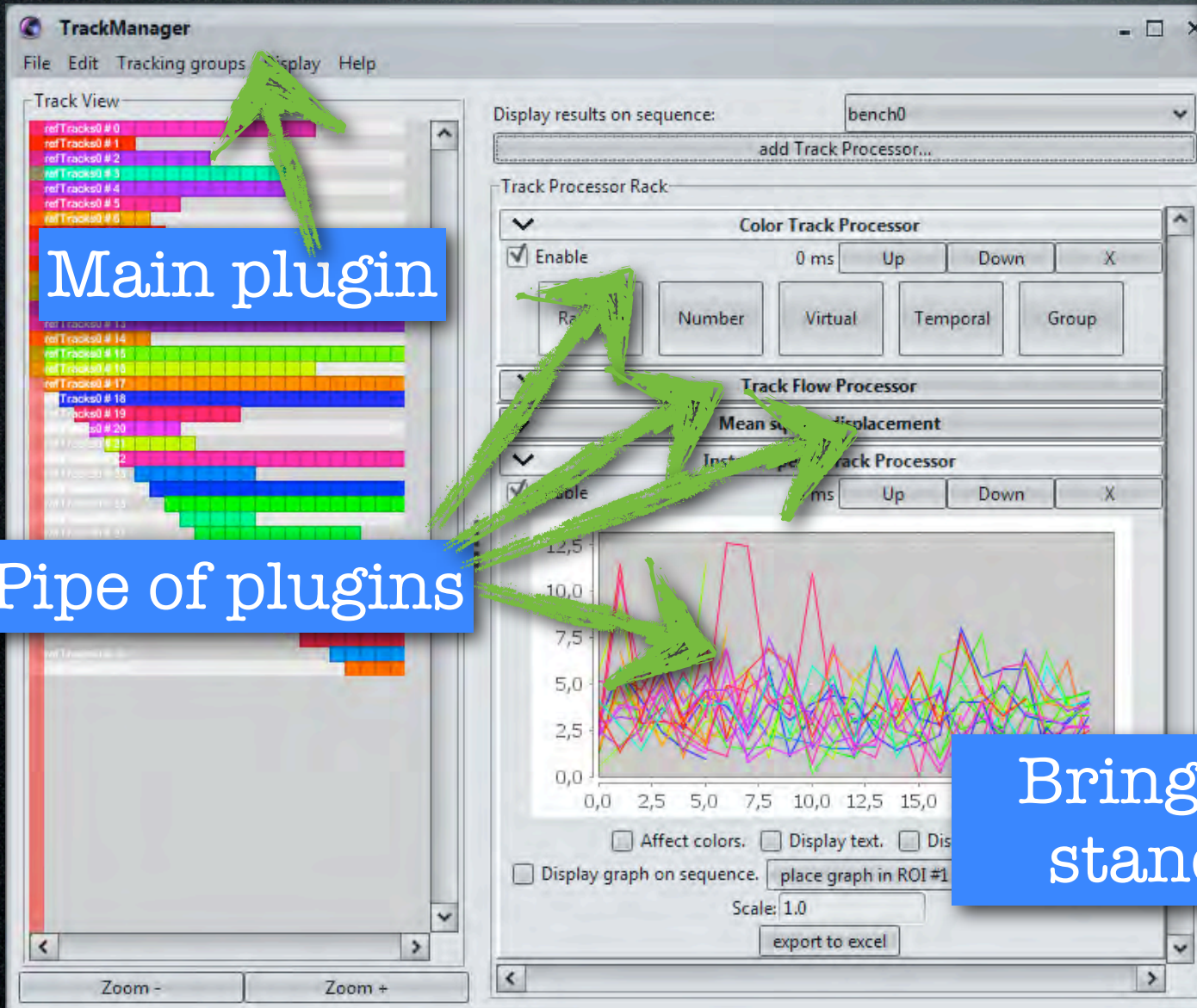
Classic plug-ins

Look-up table

Viewer

# Plugin of plugins

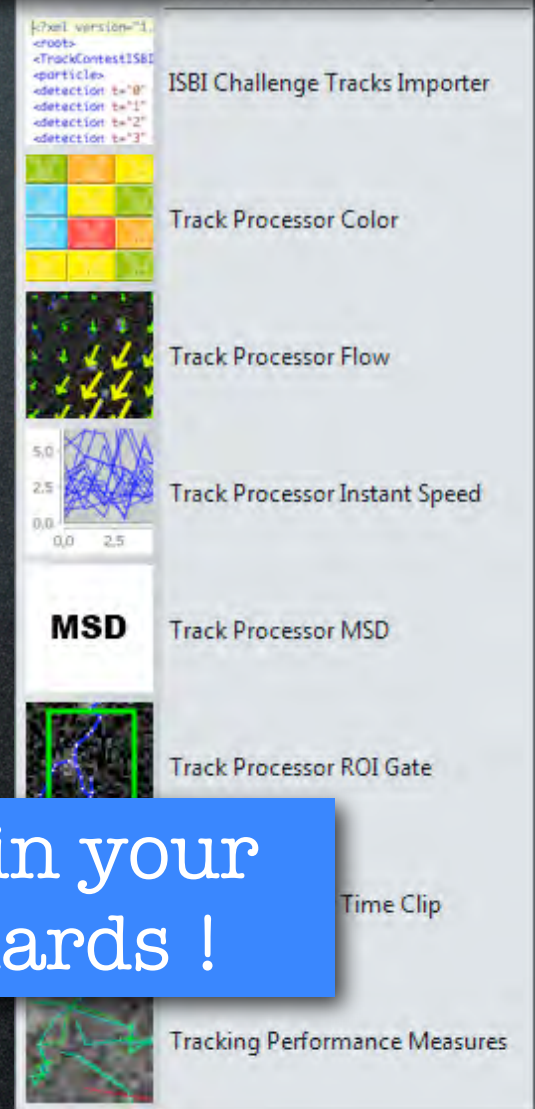
Sub plugin list  
built by the  
mother-plugin



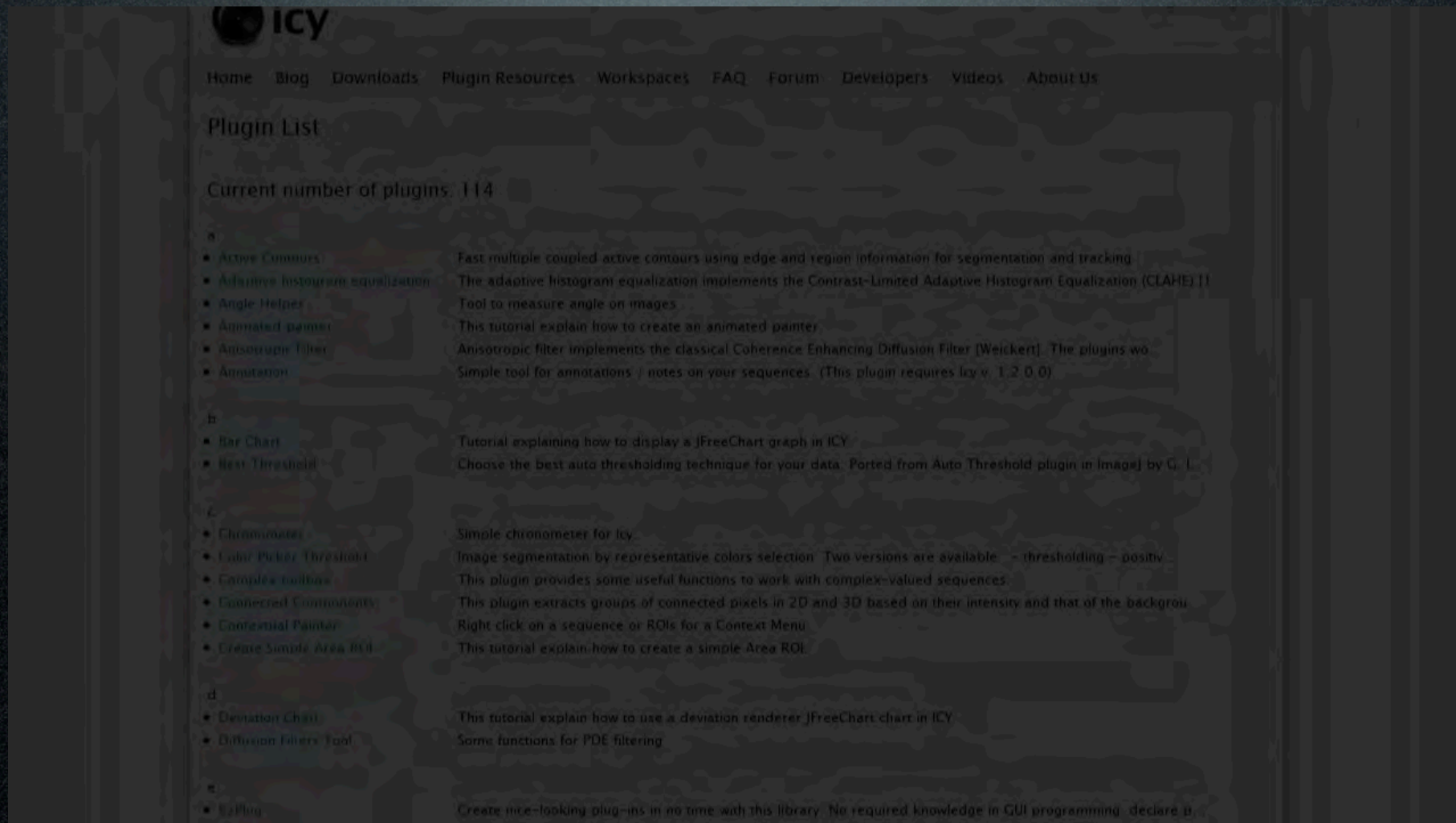
Main plugin

Pipe of plugins

Bring in your  
standards !



# Available plug-ins



The screenshot shows the ICY website's 'Plugin List' page. At the top, there is a navigation menu with links for Home, Blog, Downloads, Plugin Resources, Workspaces, FAQ, Forum, Developers, Videos, and About Us. Below the navigation, the page title is 'Plugin List'. A status line indicates 'Current number of plugins: 114'. The main content is a list of plugins, each with a bullet point, a title, and a brief description. The plugins are grouped by their first letter: 'a', 'b', 'c', 'd', and 'e'. The visible plugins include Active Contours, Adaptive Histogram Equalization, Angle Helper, Animated Painter, Anisotropic Filter, Annotation, Bar Chart, Best Threshold, Chromometer, Color Picker Threshold, Complex Toolbox, Connected Components, Contextual Painter, Create Simple Area ROI, Deviation Chart, Diffusion Filters Tool, and Easylog.

**ICY**

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## Plugin List

Current number of plugins: 114

**a**

- **Active Contours** Fast multiple coupled active contours using edge and region information for segmentation and tracking
- **Adaptive Histogram Equalization** The adaptive histogram equalization implements the Contrast-Limited Adaptive Histogram Equalization (CLAHE) [1]
- **Angle Helper** Tool to measure angle on images
- **Animated painter** This tutorial explain how to create an animated painter
- **Anisotropic Filter** Anisotropic filter implements the classical Coherence Enhancing Diffusion Filter [Weickert]. The plugins wo
- **Annotation** Simple tool for annotations / notes on your sequences. (This plugin requires icy v. 1.2.0.0)

**b**

- **Bar Chart** Tutorial explaining how to display a JFreeChart graph in ICY
- **Best Threshold** Choose the best auto thresholding technique for your data. Ported from Auto Threshold plugin in ImageJ by G. L.

**c**

- **Chromometer** Simple chromometer for icy
- **Color Picker Threshold** Image segmentation by representative colors selection. Two versions are available: - thresholding - positiv
- **Complex Toolbox** This plugin provides some useful functions to work with complex-valued sequences
- **Connected Components** This plugin extracts groups of connected pixels in 2D and 3D based on their intensity and that of the backgrou
- **Contextual Painter** Right click on a sequence or ROIs for a Context Menu
- **Create Simple Area ROI** This tutorial explain how to create a simple Area ROI

**d**

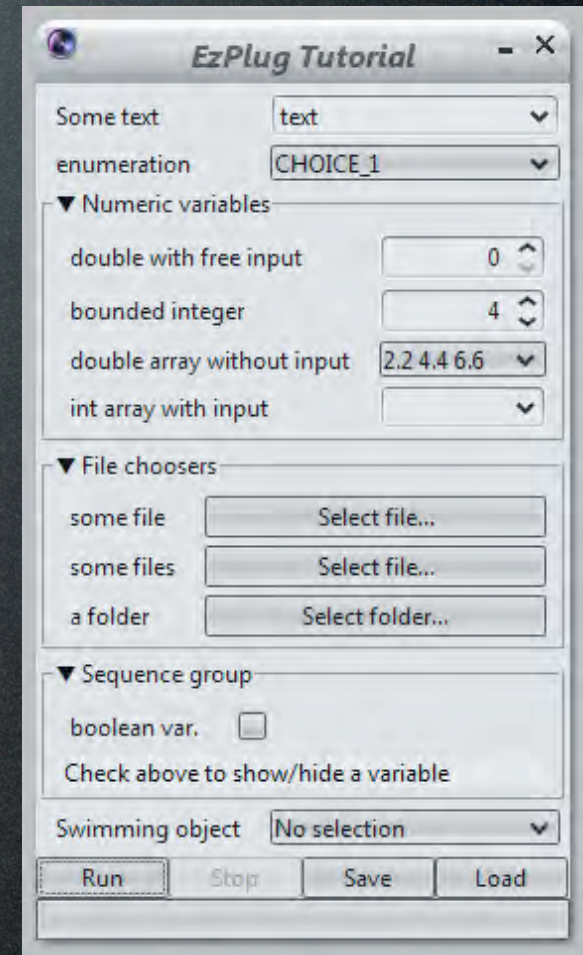
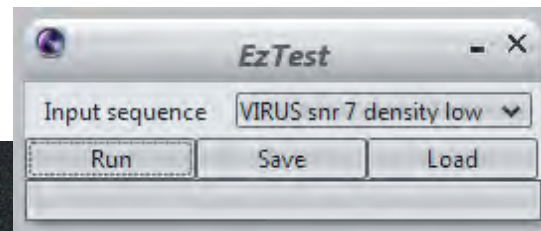
- **Deviation Chart** This tutorial explain how to use a deviation renderer JFreeChart chart in ICY
- **Diffusion Filters Tool** Some functions for PDE filtering

**e**

- **Easylog** Create nice-looking plug-ins in no time with this library. No required knowledge in GUI programming. declare it

# Writing plugins with EzPlug

```
1 package plugins.fab.challengescoring;
2
3 import plugins.adufour.ezplug.EzPlug;
4 import plugins.adufour.ezplug.EzVarSequence;
5
6 public class EzTest extends EzPlug {
7
8     EzVarSequence inputSequence = new EzVarSequence("Input sequence");
9
10    @Override
11    protected void initialize() {
12
13        addEzComponent( inputSequence );
14    }
15
16    @Override
17    protected void execute() {
18
19        System.out.println("The sequence selected is " + inputSequence.getValue() );
20    }
21
22    @Override
23    public void clean() {
24    }
25
26
27 }
```




# Provided libraries

BioFormats  
Flamingo  
Flanagan  
VTK  
Icy-Insubstantial  
Jama  
JFreeChart  
Java Media Framework  
JTransforms  
MicroManager  
JXL  
Phys 2D  
JEval  
ImageJ  
Xuggler  
OME

Updated  
& not-conflicting

# Plugin CMS: Submission

Welcome fab. [my settings](#) - [my plugins](#) - [admin](#) - [disconnect](#)

 icy

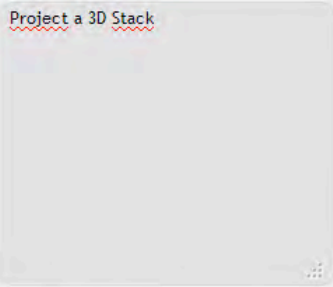
[Home](#) [Blog](#) [Downloads](#) [Plugin Resources](#) [Workspaces](#) [FAQ](#) [Forum](#) [Developers](#) [Videos](#) [About Us](#)

## New Plugin:

Plugin name:

Classname:

Flag as beta:

Description:  


Jar file:  
   
  
[Cancel](#)

**Tip**

**Plugin name:**

The plugin name is used over the website to describe your plugin.

**ClassName:**

This is the full classpath to the main plugin class (which should extend Plugin).  
Example: plugins.myName.myPackage.MyPlugin

**Flag as beta:**

If you flag as a beta, your plugin will not be directly visible from ICY: only the one who set "allow beta" in ICY will see this plugin. You can use this option for your first release and perform a test install, if it worked well, then you can use the link "switch to non-beta state" in the plugin management. We strongly recommend to use this option if it is your first plugin submission !

**Description:**

The description is a small text of 600 chars used to promote your plugin over the website. You can edit this description later on.

**Jar File:**

You must upload a jar file containing all the...


# Plugin CMS: Plugin management

### General Description

Projects data over Z-Stack or over Time, using max, min, mean, sum saturated, and sum unsaturated. Sum saturated means that if sum is greater than the data type of the image, then the value will be the max value available with this data type.

[modify](#)

### Plugin Icon



### Plugin Tooltip

No tooltip image defined.

### Online user documentation

[Edit documentation - Link to current documentation](#)

### Tag List

- [projection](#) - [remove](#)

[add a new tag \( 7 remaining \)](#)

### Plugin unique ID

Plugin unique ID : A9L7V2

### JAR files

| datetime            | version  | min kernel version requested | regression                              | changelog                 |
|---------------------|----------|------------------------------|---|---------------------------|
| 2011-08-23 11:42:27 | 1.0.0.5  | 0.0.0.0                      |   | <a href="#">view/edit</a> |
| 2011-05-12 16:25:28 | 1.0.0.4  | 0.0.0.0                      | <a href="#">regress to this version</a> | <a href="#">view/edit</a> |
| 2011-02-24 09:52:40 | 1.0.0.3  | 0.0.0.0                      | <a href="#">regress to this version</a> | <a href="#">view/edit</a> |
| 2011-02-22 15:17:53 | 1.0.0.2  | 0.0.0.0                      | <a href="#">regress to this version</a> | <a href="#">view/edit</a> |
| 2011-02-22 15:16:41 | 1.0.0.1b | 0.0.0.0                      |   | <a href="#">view/edit</a> |
| 2011-02-21 10:52:19 | 1.0.0.0  | 0.0.0.0                      | <a href="#">regress to this version</a> | <a href="#">view/edit</a> |

[Add an new version of the JAR File](#)

### Full generated changelog:

```
-  
Version 1.0.0.5  
Date 2011-08-23 11:42:27  
  
Fixed : a crash could occur if there is no image in sequence  
  
-  
Version 1.0.0.4  
Date 2011-05-12 16:25:28
```

### Automatic bug reports log

Automatic bug report is **private** - [switch to public](#)  
[Jump to automatic bug report list](#)

### Associated splash screens

[add a new associated splash screen](#)

### Associated internet mini-screens

Total number of view of miniscreen on website : 0

[add a new associated mini-screen](#)

### Dependencies

[Add a new dependency \( 10 remaining \)](#)

### Promote plugin on mainPage

Promotion will only work if at least one miniscreen is referenced  
Promotion is **on** - [switch to off](#)

### List of plugins depending on this plugin

No other plugin depends on this plugin.

### Special operations

- [delete this plugin](#)
- [rename this plugin](#)
- [change the classname of this plugin](#)

### Link list

No link referenced.

[add a new associated link](#)



# Plugin install

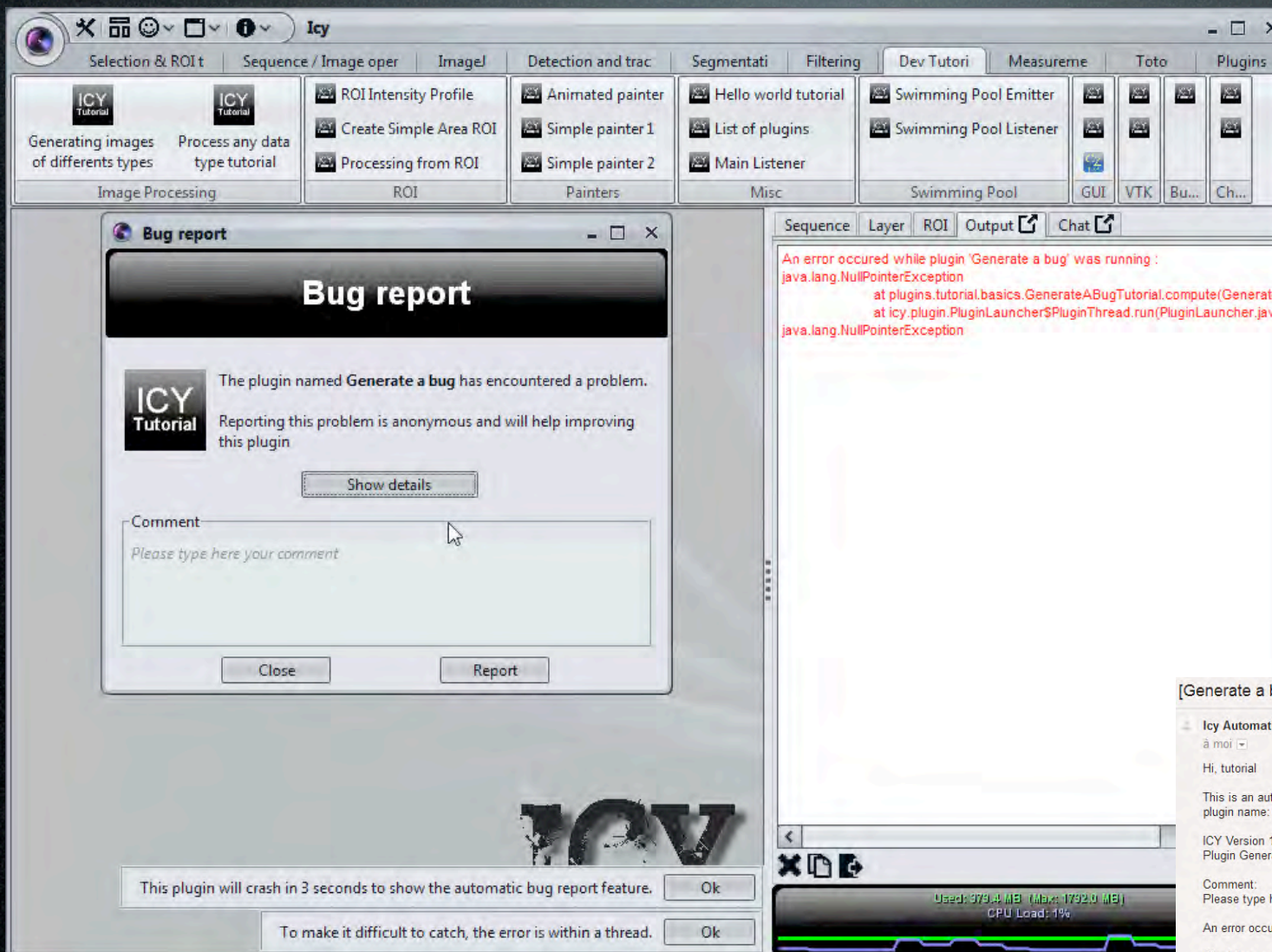
The screenshot displays the Icy software interface with the 'Preferences' dialog box open. The dialog is titled 'Preferences' and has a sidebar on the left with categories: General, Canvas, Chat, Repository, Plugin, Local Plugin, Online Plugin (selected), Startup Plugin, Workspace, Local Workspace, and Online Workspace. The main area of the dialog is titled 'Online Plugin' and contains the following elements:

- Repository: default - <http://www.bioimageanalysis.org/icy/repository/> (with a 'Reload list' button)
- Search field: four
- Table of installed plugins:

| Name                           | Version | State     |
|--------------------------------|---------|-----------|
| Fast Fourier Transform         | 1.0.0.1 | installed |
| Log 2D canvas                  | 0.0.1.0 | installed |
| Probabilistic particle tracker | 1.0.1.6 | installed |

Buttons for 'Show detail' and 'Delete' are visible next to the table rows. At the bottom of the dialog are 'Reset to default', 'Apply', 'Ok', and 'Cancel' buttons. The background shows the Icy main window with a menu bar (Selection & ROI to, Sequence / Image opera, ImageJ, Detection and track, Segmentati, Filtering, Dev Tutoria, Measureme, Toto, Plugins) and a toolbar with various icons. A 'Plugins' panel on the right lists several installed plugins: Particle tracking benchmark generator, HoleFiller, Hierarchical K-Means, Annotation, Invert, Thresholder, Stereo Viewer, Fast Fourier Transform, Montage 2D, WE Workspace Editor, and ISBI Tracking Challenge Batch Scoring. A system tray at the bottom right shows 'Used: 252.4 MB (Max: 1792.0 MB)' and 'CPU Load: 0%' with a small graph.

# Automatic bug reports



Is it useful ?

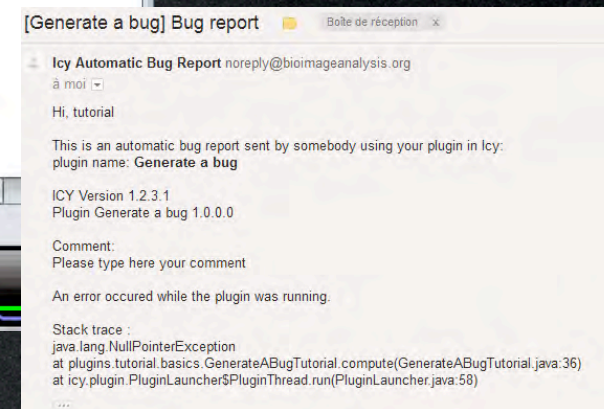
In 1 year:

2114 automatic  
bug reports

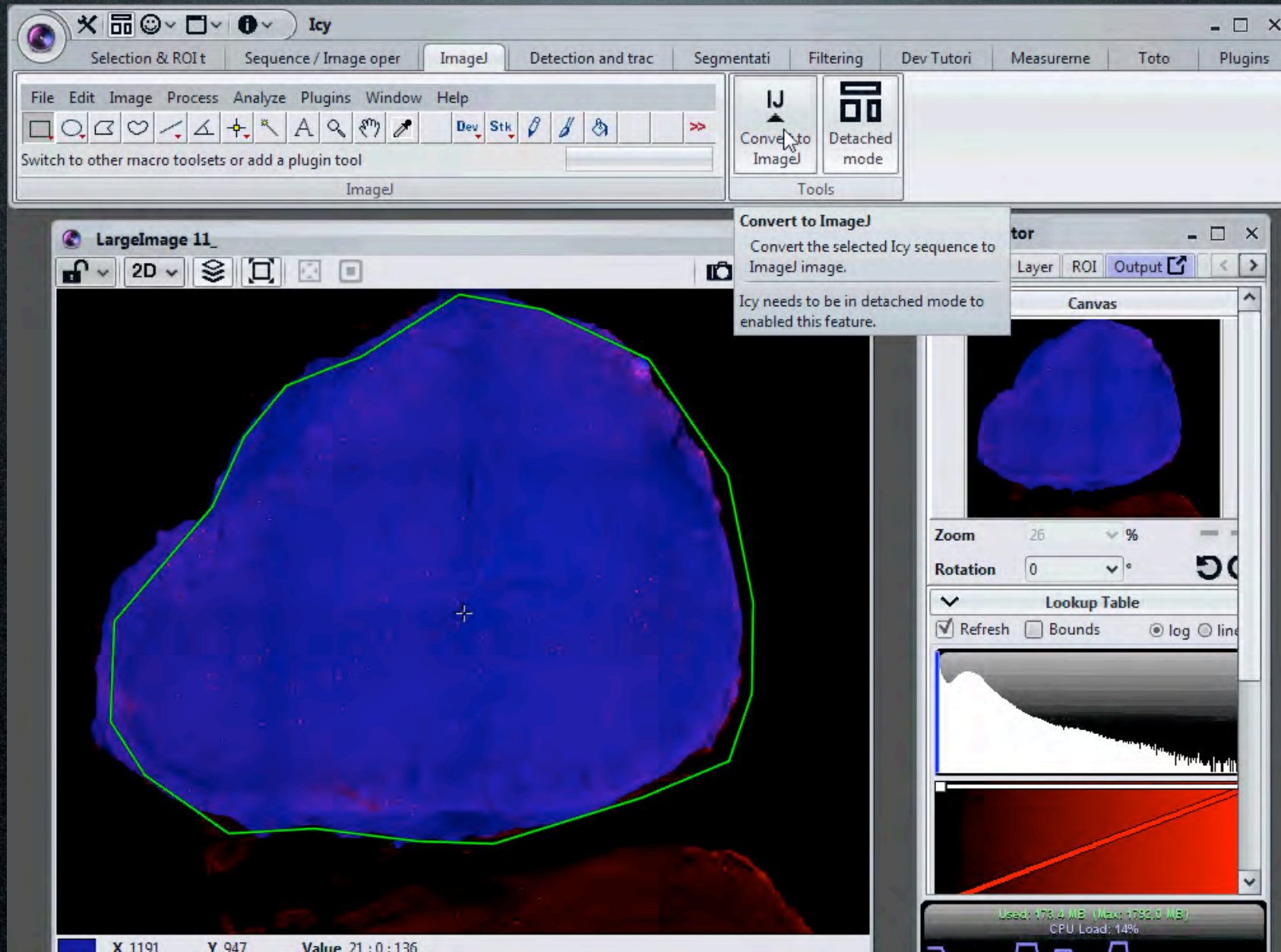
768 plug-in updates

439 console reports

233 issues fixed



# ImageJ 100% compatibility



# MicroManager

**Control Dialog**

## ICY Microscope Advanced Acquisition

Time points

Number: 1 **1**

Interval: 0

**Acquisition order**

Slices first **6**

**Acquire!**

Multiple positions (XY)

Edit position list... **2**

Autofocus

Distances: ...

Stop

Z-stacks (slices)

Z-start [um]: -10 **Set**

Z-end [um]: 10 **Set**

Z-step [um]: 1

relative Z **3**

Keep shutter open

**Channels**

Channel group: FilterBlock **4**

Keep shutter open

| Configura... | Exposure | Z-offset | Z-stack                             | Skip Fr. | Color |        |
|--------------|----------|----------|-------------------------------------|----------|-------|--------|
| 2-GFP-L      | 400      | 0        | <input checked="" type="checkbox"/> | 0        |       | New    |
| 4-UV-2A      | 700      | 0        | <input checked="" type="checkbox"/> | 0        |       | Remove |
|              |          |          |                                     |          |       | Up     |
|              |          |          |                                     |          |       | Down   |

Save images

Display **5**

Directory root: C:\AcquisitionData

Name prefix: Untitled

Comment

**MicroManagerForIcy**

## ICY MicroManager For Icy

Configuration **1** | Camera Settings | Running Acquisitions

| Group                | Preset                  |
|----------------------|-------------------------|
| Digitization         | 2. 14bit                |
| FilterBlock          | 2-GFP-L                 |
| FocusDevice          | TIZDrive <b>2</b>       |
| NosePiece            | 3-PlanFluor 20x na 0.45 |
| PFS                  | Off                     |
| PFSOffsetPosition    | 148                     |
| TIDiaComputerControl | Off                     |
| TIDiaLamp-Intensity  | 0                       |

Group: **3** **4**

**Remote**

## Remote

**1** **2**

**3**

M1 M2 M3 **4** M4 ?

Invert X-Axis **5**

Invert Y-Axis

Invert Z-Axis

X: -845.34  $\mu$ m

Y: 2817.69  $\mu$ m **6**

Z: 5.94  $\mu$ m

**ICY  
Snapper**

Snap options

Snap to Z

Snap to T

Snap to C

Slices options

Slices Count: 20

Interval ( $\mu$ m): 1.0

Distribution

13 above

7 below

# MiceProfiler

The screenshot displays the MiceProfiler software interface, which is part of the Icy environment. The main window, titled "no name", shows a video frame with two mice. One mouse is highlighted with a yellow and green bounding box, and its position is tracked. The text "world E: 120.338486" is overlaid on the video. The interface includes a menu bar with "Selection & ROI tools", "Sequence / Image operation", "Tracking Mice", and "Plugins". Below the menu is a toolbar with icons for "Open", "Select", "Move", "Point", "Line", "Polyline", "Rectangle", "Ellipse", "Polygon", and "Area".

The "Physic Tracker 6" panel on the left contains the following settings:

- Video Settings: 1209-1221\_1295V.AVI
- Use image load optimisation:  200
- Current buffer: 94 %
- Buttons: Previous Frame, Next Frame, Previous 10 Frame, Next 10 Frame
- update phys. guides:
- (#frame): 195/8716 00:00:12
- Buttons: Track All Start, Track Stop
- Read starting position from Line ROI.
- Save XML Data
- Binary Map:  Gradient Map:
- Forces:  Energy Area:
- Body Center:  Body Shape:
- Global Spline:  Slide Joint:
- Distance Joint:  Track Memory:
- Use motion prediction:
- Binary Threshold: 60
- Mouse Model Scale: 0.22
- Buttons: Start Step Anim, Stop Step Anim
- lastFramePhysicTime, lastFrameLoadTime, lastFrameForceMapTime, total image time: 15.0 ms / FPS:...

The right panel shows the "Output" tab with the following information:

- Size: 320 x 240 x 1 x 375 x 3 ch (unsigned byte)
- X: 2,31 Y: 62,32
- Z: 0 T: 194
- Data: 5 : 27 : 6
- Color: 255 : 005 : 027 : 006
- Scale: 50 100 150 200 250 300 350
- 194/374 frame rate 25
- Used: 156,9 MB (Max: 1880,2 MB) CPU Load: 93%

Icy Version 1.0.5.2

# MiceProfiler

Icy

Selection & ROI tools   Sequence / Image operation   Tracking Mice   Plugins

### Video Label Maker

File

C:\Documents and Settings\Administrator\Desktop\video tracking\1209-1221\_1295V.AVI.xml

Video

b:10 b:12 b:14 b:16 b:18 b:20 b:22 b:24 b:26 b:28 b:30 b:32 b:34 b:36 b:38 b:40 b:42 b:44 b:46 b:48 b:50 b:52

Distance less than THRESHOLD 1 (closest) nbEvent:7 totalT:33.2s

Distance less than THRESHOLD 2 nbEvent:2 totalT:45.0s

Head - Head : nbEvent: 0 TotalT=0.0s

Head A - Genital B nbEvent:13 TotalT:30.5s

Head B - Genital A : nbEvent:0 totalT:0.0s

Mouse A is behind B nbEvent:5 totalT:35.8s

Mouse B is behind A nbEvent:1 totalT:12.8s

Mice are next to the each other and body distance < DISTANCE\_2 (same way) nbEvent:1 totalT:0.2s

Mice are next to the each other and body distance < DISTANCE\_2 (opposite) nbEvent:2 totalT:0.2s

Mouse A speed slow=black fast=gray mean speed: 0.58459693

Mouse B speed slow=black fast=gray mean speed: 0.8520586

A Stop nbEvent: 9.0 total: 29.4s

B Stop nbEvent: 25.0 total: 20.9s

Mouse A Speed > Mouse B Speed & Mouse A getting to B : nbEvent: 26.0 total: 11.7s

Mouse B Speed > Mouse A Speed & Mouse B getting to A : nbEvent: 32.0 total: 16.4s

Mouse A Speed > Mouse B Speed & Mouse A escaping from B : nbEvent: 11.0 total: 3.0s

Mouse B Speed > Mouse A Speed & Mouse B escaping from A : nbEvent: 29.0 total: 17.8s

Mouse A going to B and finishing with contact starting from no contact.: nbEvent: 12.0 total: 1.8s

Mouse B going to A and finishing with contact starting from no contact.: nbEvent: 50.0 total: 4.3s

Mouse A escaping after contact and finish out of distance threshold.: nbEvent: 2.0 total: 0.8s

Mouse B escaping after contact and finish out of distance threshold.: nbEvent: 8.0 total: 5.4s

Mouse A get to mouse B and B escape with threshold distance in and out: nbEvent: 1.0 total: 12.4s

Mouse B get to mouse A and A escape with threshold distance in and out: nbEvent: 1.0 total: 3.0s

Mouse A get to mouse B and A escape with threshold distance in and out: nbEvent: 0.0 total: 0.0s

Mouse B get to mouse A and B escape with threshold distance in and out: nbEvent: 1.0 total: 15.4s

Mouse A poursuit B : nbEvent: 3.0 total: 1.0666667

Back to back: nbEvent: 0.0 total: 0.0

Mouse A can see B: nbEvent: 2.0 total: 2.9333334

Mouse B can see A: nbEvent: 1.0 total: 13.2

Save Chrono Image

Setup

Distance Threshold 1(closest) in px: 22.0

Distance Threshold 2 in px: 40.0

Distance Head-Head in px: 15.0

Distance Head-Genital 2 in px: 15.0

Side detection Parameter in px: 12.0

Speed Threshold 1 (black) in px: 0.5

Speed Threshold 2 (gray) in px: 2.0

Speed Threshold 3 (lightgray) in px: 4.0

FPS: 15.0

Load frame start: 0.0

Load frame end: 1.0E7

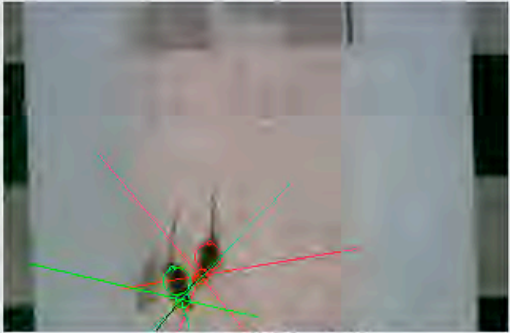
Computation Start Minute: 0

Computation End Minute: 8

Mouse Scale: 0.22

Refresh Data

video

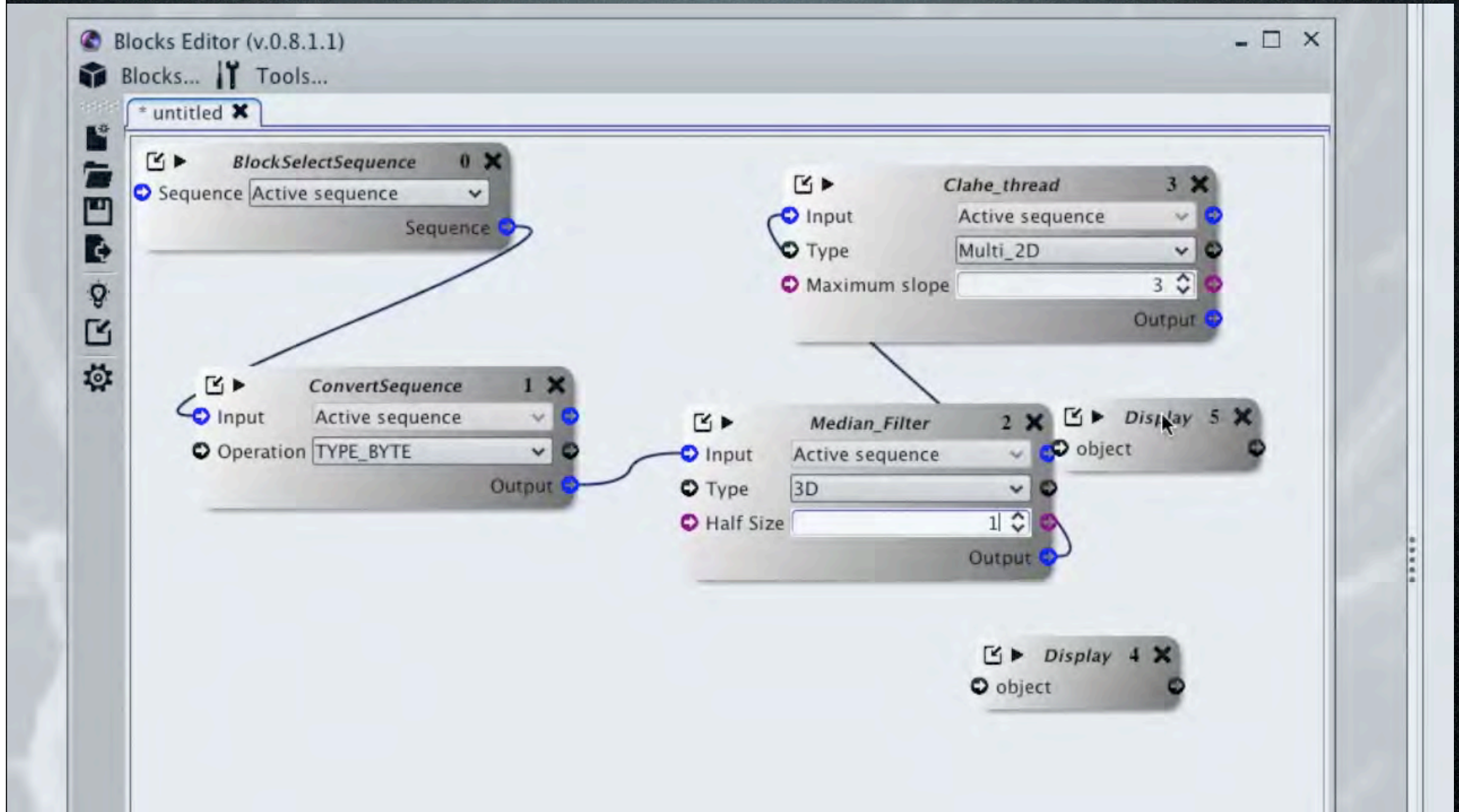


frame #378 0:25

Mouse B speed slow=black fast=gray mean speed: 0.8520586

Icy Version 1.0.5.2

# Graphical programming



# Introducing protocols

The screenshot displays the 'Blocks Editor (v.0.5)' interface with a workflow titled 'Proliferation\_with\_unfold.xml'. The workflow consists of numerous interconnected blocks, including:

- ConvertSorin (2)**: Operation TYPE\_BYTE
- Median\_Filter (3)**: Multi\_2D, Half Size 2
- Operations\_2seq\_1param (8)**: Extract Membrane over threshold, Threshold 44.5, Threshold2 0.5, Type 3D
- HierarchicalKMeans (9)**: Gaussian pre-filter 0, Min size (px) 100, Max size (px) 1,600, Number of classes 10
- BlockSelectSequence (1)**: Sequence
- Median\_Filter (13)**: 3D, Half Size 1
- ConvertSorin (5)**: Operation TYPE\_BYTE
- Diffusion\_ICIP (6)**: Iterations 20, Z/X ratio 2.64
- Claha\_thread (7)**: Multi\_2D, Maximum slope 3
- Claha\_thread (14)**: 3D, Maximum slope 1
- BlockSetResolution (15)**: Resolution X 0.379, Resolution Y 0.379, Resolution Z 1
- BlockSaveSequences (18)**: Folder, Nuclei Byte, Bridges Byte, Membranes Byte, Nuclei Medm2D, Nuclei Med3D, Nuclei Clahe, Membranes ICIP, Membranes Clahe, Bridges ICIP, Bridges Thr, Max G552, Labeled with, Labeled without, BV ActiveMesh
- BlockSelectFolder (10)**: Folder
- BlockCreateFolder (11)**: Folder Name NucleiSeam
- BlockFolderToFile (12)**: Folder, Text All obi.xls, File
- ObjectsMeanIntensity (23)**: Nuclei, BinaryVol, Folder

At the bottom left, it says 'blocks in workflow: 25'. A green arrow points from the workflow towards the top right image.





# Communication chat

The screenshot displays the ICY software interface. The main window has a menu bar with options: Selection & ROI tools, Sequence / Image operation, Image, Detection and tracking, Segmentation, Filtering, Dev Tutorials, Measurement, Toto, and Plugins. Below the menu is a toolbar with icons for Open, Select, Move, Point, Line, Polyline, Rectangle, Ellipse, Polygon, and Area. The main workspace shows a chat log with the following text:

```
#icy: [13:25] <guest3431> it needs specific java releases?
#icy: [13:25] <Stephane-D> no
#icy: [13:25] <Stephane-D> it does not need specific java version
#icy: [13:25] <Stephane-D> as external library
#icy: [13:25] <Stephane-D> as it was the case with the JMF library
#icy: [13:26] <Stephane-D> in fact you can probably fix your problem with the JMF
#icy: [13:26] <Stephane-D> i think you use a 64 bits java with a 32 bits JMF
#icy: [13:26] <Stephane-D> but if you can wait tomorrow
#icy: [13:26] <Stephane-D> then it will be easier to get things fixed.
#icy: [13:26] <guest3431> wath is the way of operating of this JMF library?
#icy: [13:26] <Stephane-D> JMF uses native windows API
#icy: [13:27] <Stephane-D> and as far i remember JMF is only available in 32 bits versions
#icy: [13:27] <Stephane-D> so if you use a 64 bits java it won't work
#icy: [13:27] <Stephane-D> the next library will contains all versions in 1
#icy: [13:28] <Stephane-D> so no more compatability problem
#icy: [13:28] <guest3431> the release will be announced on web site?
#icy: [13:29] <Stephane-D> yeah :)
#icy: [13:30] <Stephane-D> and as Fab said, you can even send your email to him
#icy: [13:30] <guest3431> j've just sent..with the problem
#icy: [13:30] <Stephane-D> and so we will let you know when the next version will be released.
#icy: [13:30] <Stephane-D> ok.
#icy: [13:31] <guest3431> Icy is not an .exe file?
#icy: [13:31] <Stephane-D> so you will receive an email for that.
#icy: [13:32] <guest3431> it doesn't install on pc?
#icy: [13:32] <Stephane-D> There is an exe file, but that is just a launcher
#icy: [13:32] <Stephane-D> Icy is done in java
#icy: [13:32] <Stephane-D> so main file is icy.jar file
#icy: [13:33] <Stephane-D> no, you just have to extract the zip archive
#icy: [13:34] <Fab> details about how to install the software are here: http://icy.bioimageanalysis.org/index.php?display=detailPlugin&pluginId=155
#icy: [13:35] <guest3431> but if it is in .jar it doesn't not install, right?
#icy: [13:35] <Fab> Ok i just saw you email
#icy: [13:36] <guest3431> I have a folder of ICY on my desktop in which I open icy.jar
#icy: [13:37] <guest3431> you are a PhD student?
#icy: [13:37] <Fab> So this is a problem with the codec.
#icy: [13:37] <Fab> a bit older than this... :)
#icy: [13:37] <Fab> Ok so your problem will be solved by the next version. I will send you an email as it's done
#icy: [13:37] <Stephane-D> Are you using windows or mac os ?
#icy: [13:37] <Stephane-D> you should not launch icy.jar directly
#icy: [13:37] <guest3431> windows xp sp3
#icy: [13:38] <Stephane-D> on macos just launch icy app
#icy: [13:38] <Stephane-D> on windows use icy.exe
#icy: [13:38] <Stephane-D> of there was a misunderstanding...
#icy: [13:39] <guest3431> I have always opened the .exe file, not the jar
#icy: [13:40] <Stephane-D> ah sorry
#icy: [13:40] <guest3431> Excuse me
#icy: [13:40] <Stephane-D> indeed i misunderstood
#icy: [13:40] <Stephane-D> of icy is fully compatible with xp sp3?
#icy: [13:41] <Stephane-D> Yeah it is... icy is wrote in java so it should work on every OS wherre you have java installed.
#icy: [13:41] Stephane-D quits chat (Quit: icy closed).
```

The chat window is titled "Fab" and shows a list of users: Fab, guest3431, guest9567, and guest8344. The chat log is scrollable and shows the conversation in real-time. At the bottom of the chat window, there is a status bar displaying system information: "Used: 1347 MB (14.0% of 9580 MB) CPU Load: 1%". The ICY logo and "Version 1.2.2.0" are visible in the bottom right corner of the main window.

# Thanks to

