Introduction to Fiji

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What is an RSE?

- Stands for:

What is an RSE?

- Stands for:

  Research Software Engineer

What is an RSE?

- Stands for:

Research Software Engineer

- https://en.wikipedia.org/wiki/Research_software_engineering

- **Research software engineering** is the use of software engineering practices in research applications. The term started to be used in United Kingdom in 2012[1][2], when it was needed to define the type of software development needed in research. This focuses on reproducibility, reusability, and accuracy of data analysis and applications created for research.

RSE Leeds Networks

- RSE Leeds:

- http://lists.leeds.ac.uk/mailman/listinfo/rse-network

- Twitter: @RSELeeds

- Women in HPC Leeds hub:

- http://lists.leeds.ac.uk/mailman/listinfo/whpc-network

- Visualisation Network:

- http://lists.leeds.ac.uk/mailman/listinfo/visualisation

Other RSE resources

- The RSE Association

- http://rse.ac.uk/join-us/

    - Mailing list, slack channel

    - RSE conference

- Software Sustainability Institute

- https://www.software.ac.uk/

    - Mailing list

    - Collaborations Workshop

- Software Carpentry Foundation

- https://software-carpentry.org/

    - Mailing list and git repositories

Fiji and ImageJ

- ## Tools for scientific image analysis

  - Open Source

    - Anyone can inspect, modify and enhance the software **BUT** you do not have to.

    - Its development is funded by research funders' is free to use.
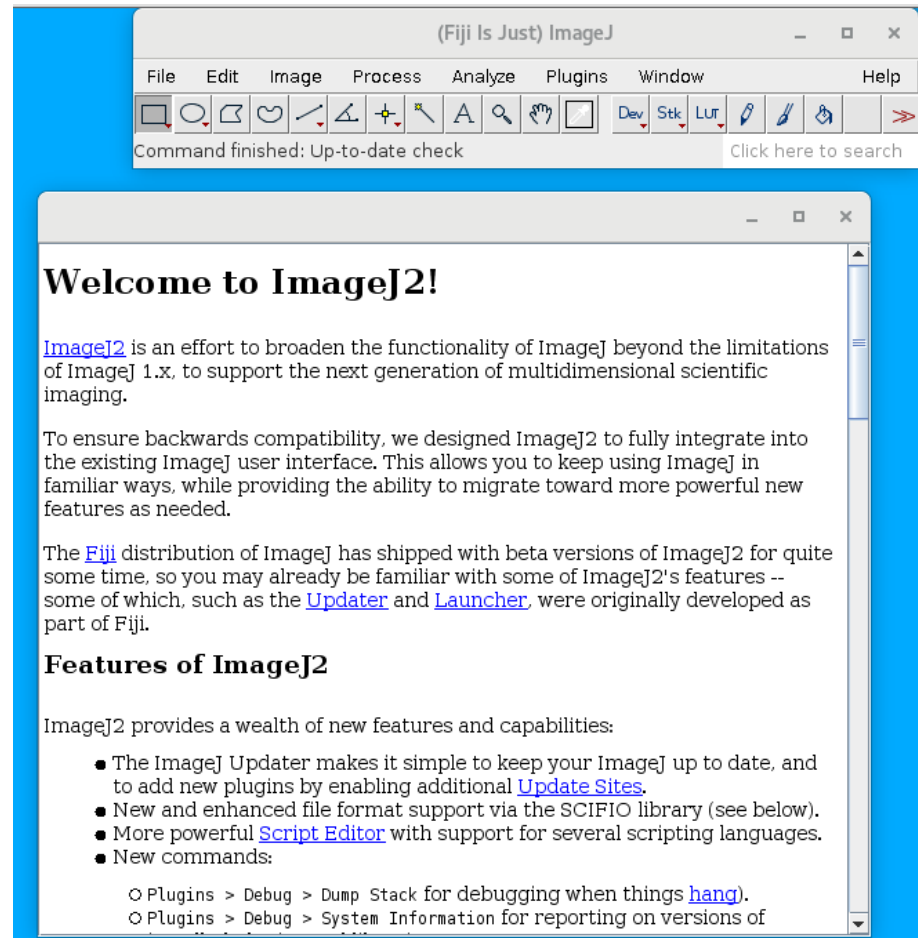
https://imagej.net/

- ## **Fiji** is a distribution of **ImageJ**

  - It comes with a large number of utilities and plugins so you do not have to install them

https://fiji.sc/

Resources

- Fiji
  - https://imagej.net/Fiji

- Download
  - https://imagej.net/Fiji/Downloads

- Learning
  - https://imagej.net/Introduction

- Tutorials
  - https://imagej.net/Category:Tutorials

- Forums
  - https://forum.image.sc/

-

Fiji at Start up

- The main window (yesterday):

The Main Window

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Menu

Tools

Status

Search
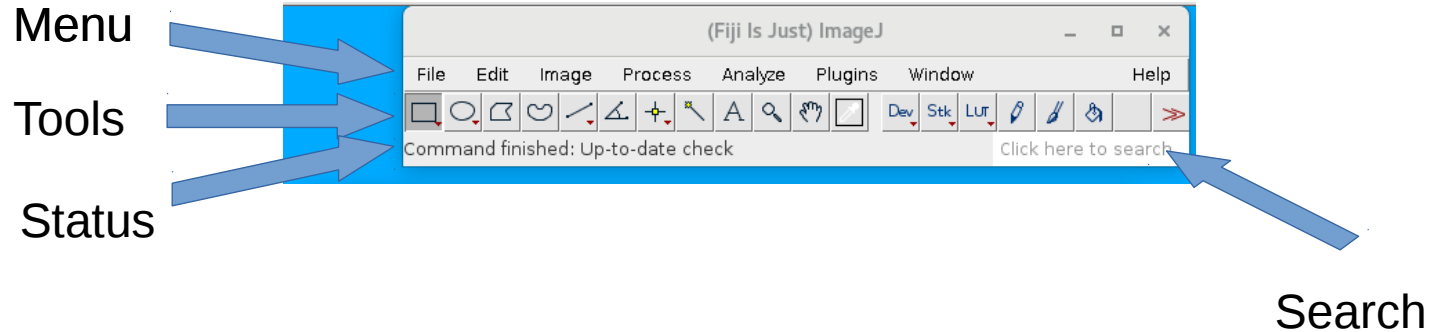
- The main window:

The Menu Bar for Major Functionality

- File
  - File input/output, new files

- Edit
  - Selection/ROI handling

- Image
  - Visualization, stack manipulation

- Process
  - Image filters

- Analyze
  - Statistics

- Plugins
  - Plugins, Macros and Utilities
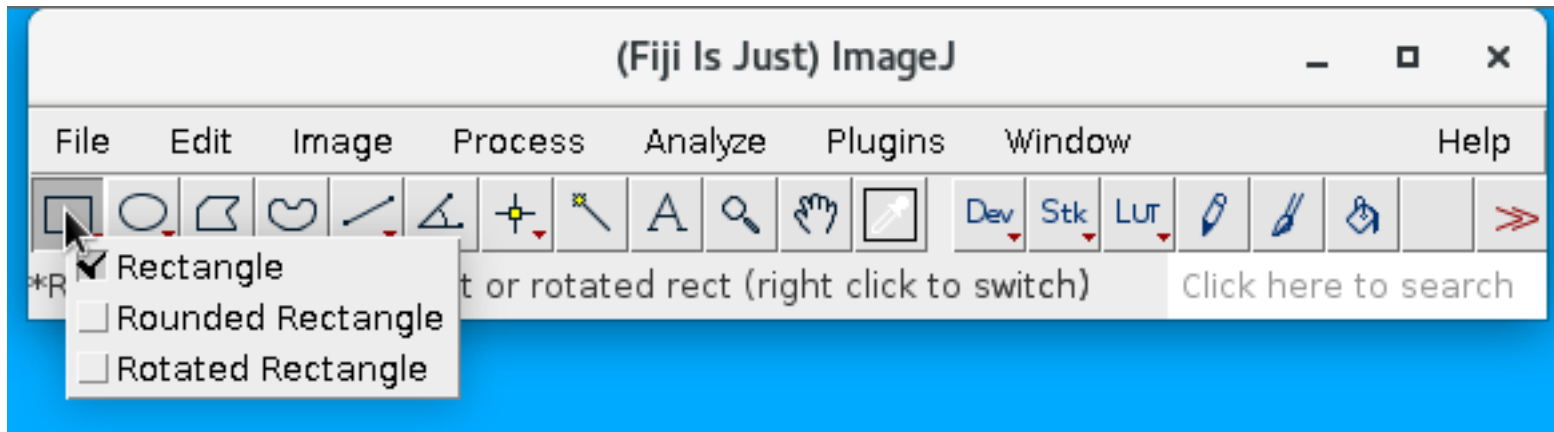
- Window
  - Windows

- Help
  - Help & Links

Information on Tools

- Hover the mouse to see info in the status bar
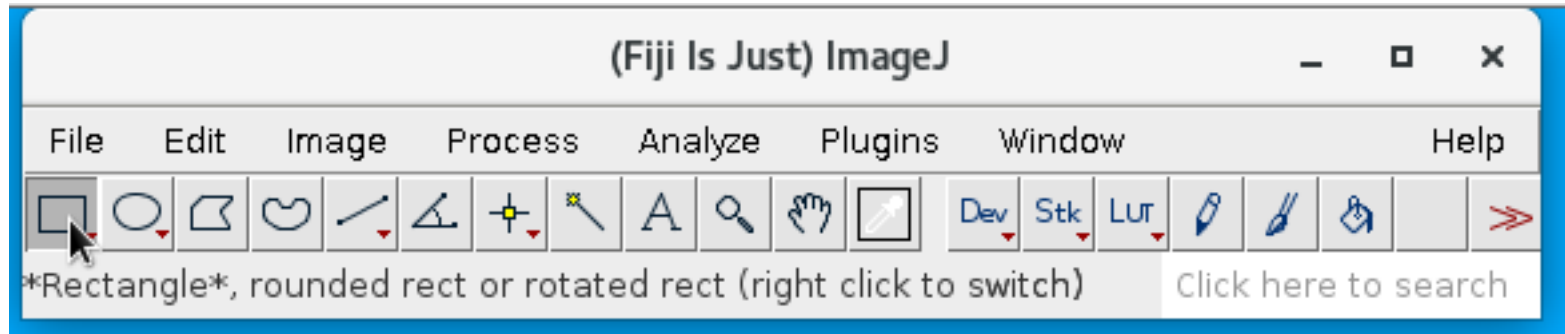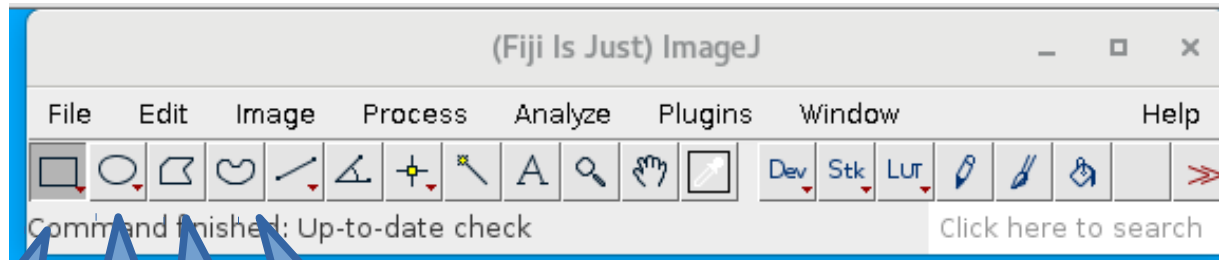

- Right click the mouse to see the drop down menu

Tools settings
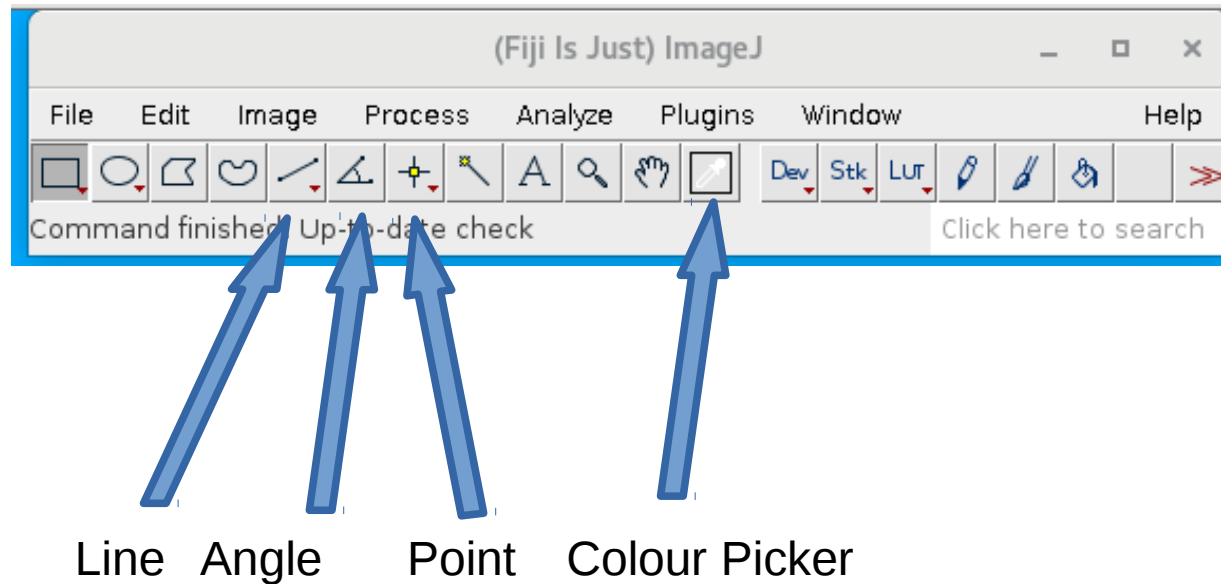
- Double left click to adjust setting for a tool
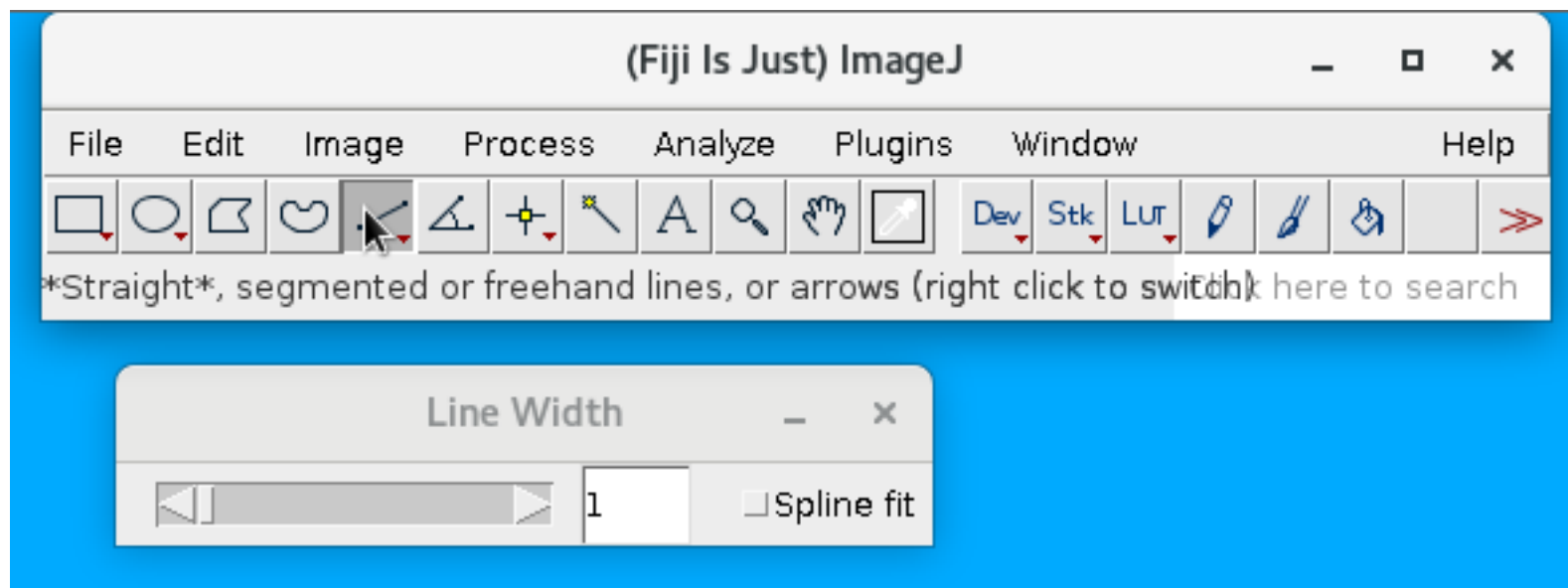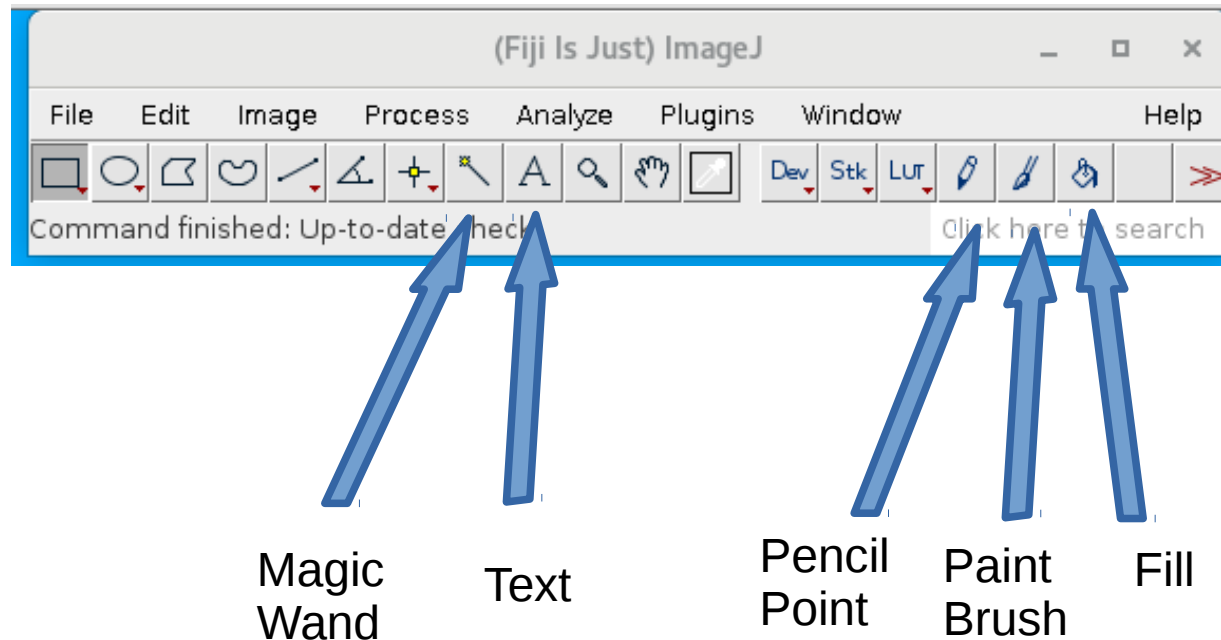
Tools

- Selection Tools

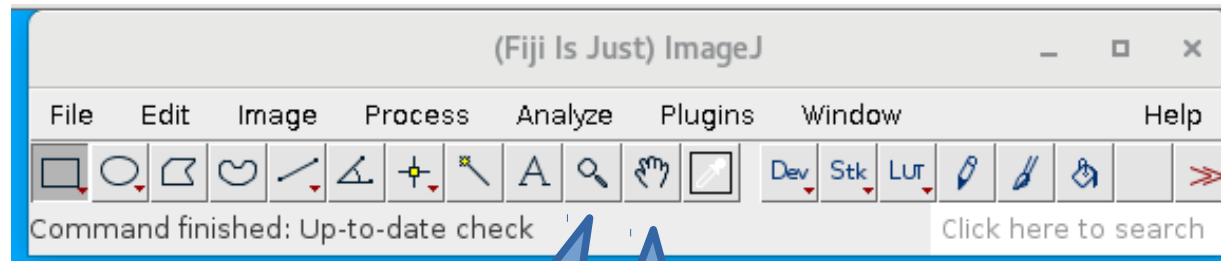Rectangle   Oval   Polygon   Freehand

Tools

- Measurement Tools

Line   Angle   Point   Colour Picker

Tools

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- Mark and Segment Tools

Magic Wand

Text

Pencil Point

Paint Brush

Fill

Tools

- Ease-of-Use Tools

Magnify or Zoom

Scrolling

Tools

- Advanced Tools

For Software Developers

Image Stacking

LUT (Look Up Table) For visualization
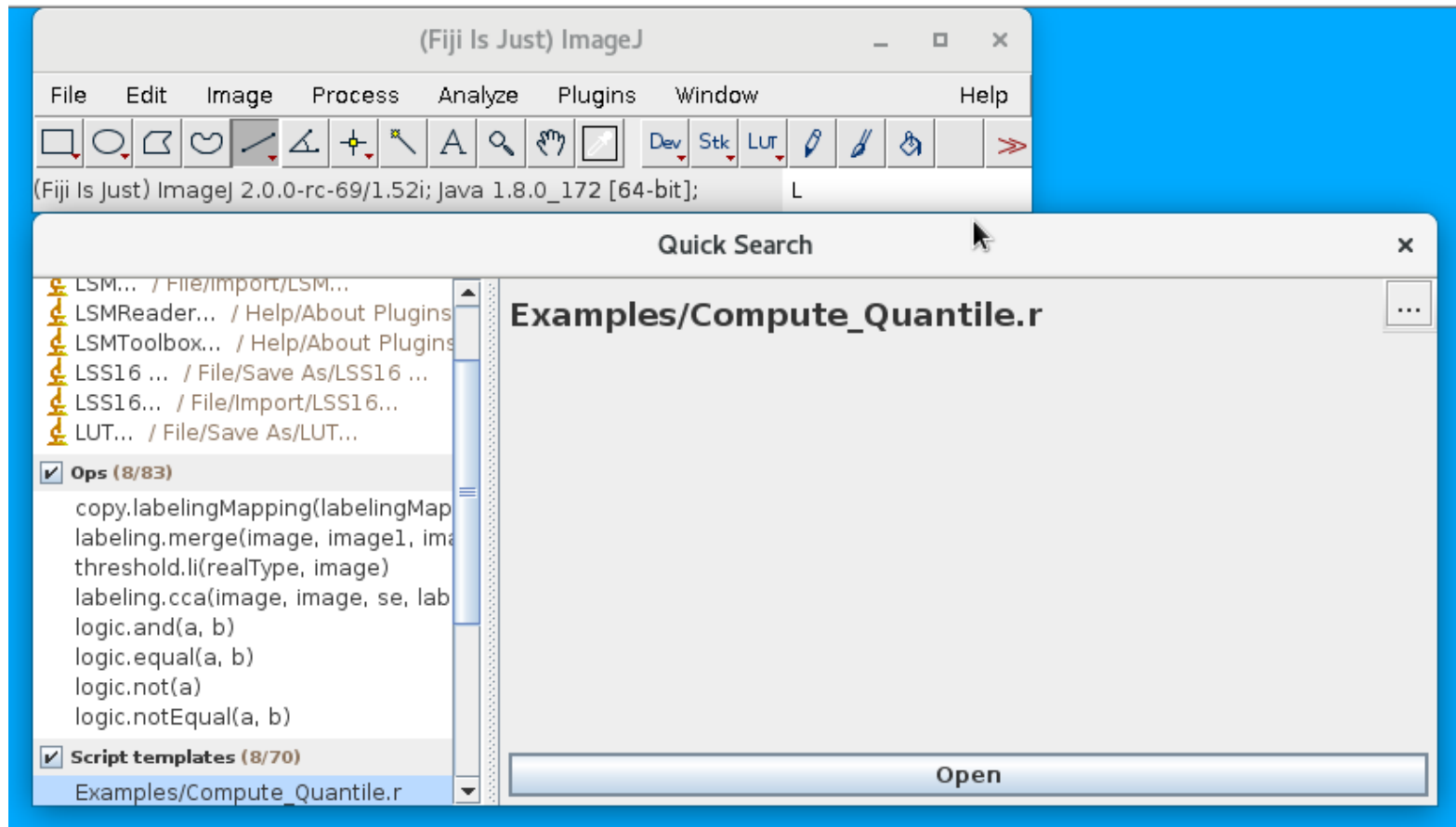
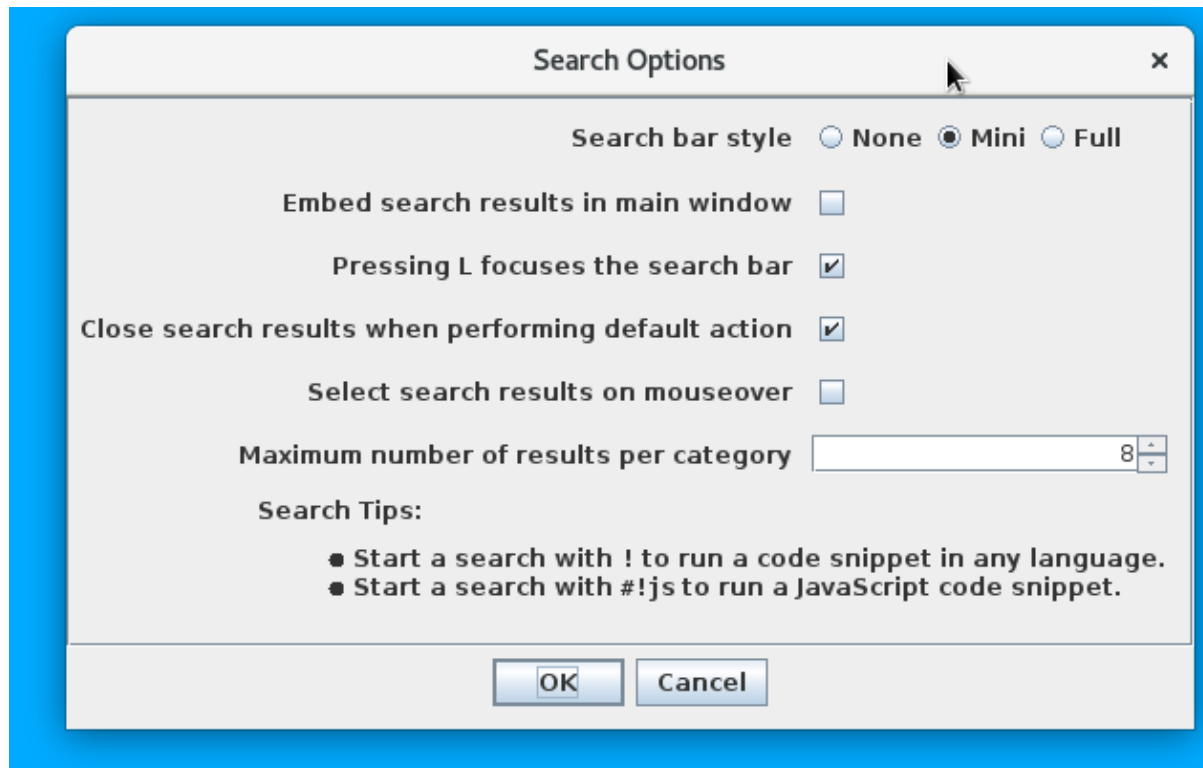More Tools
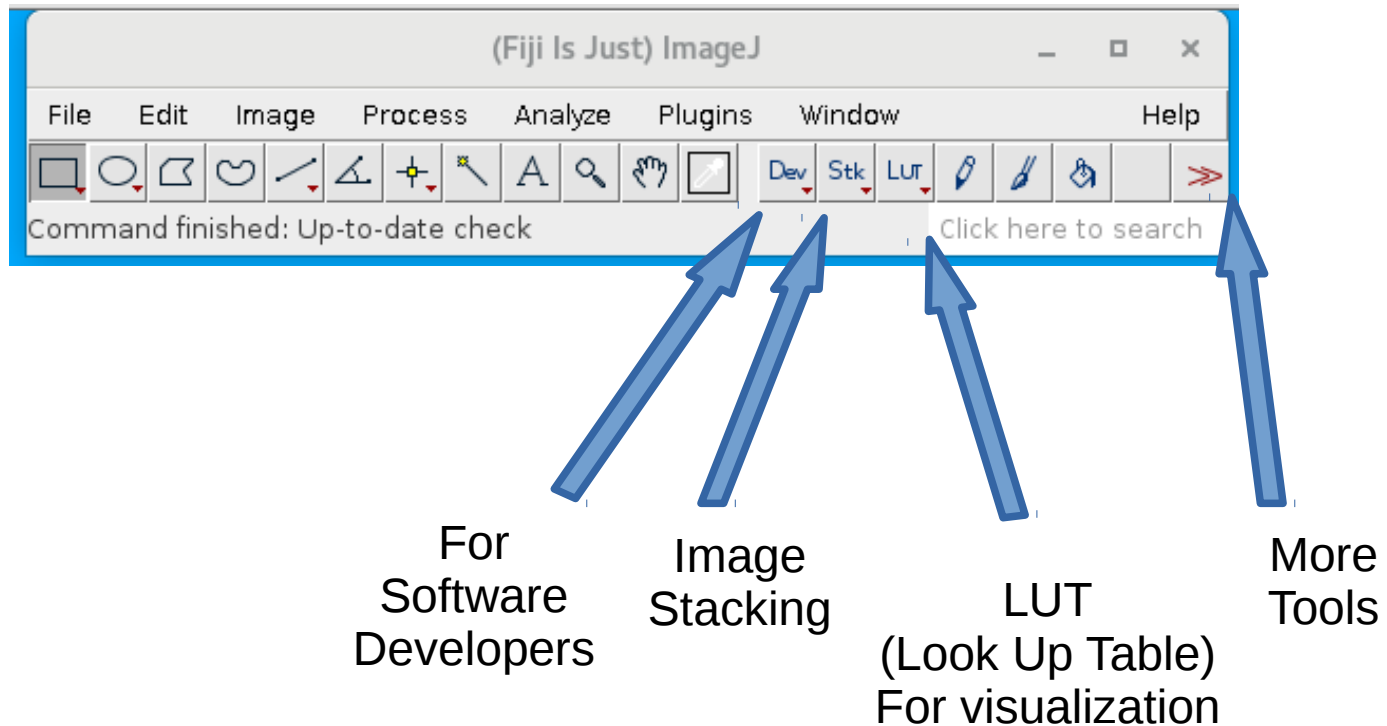
Search bar

- Type into the search bar for information
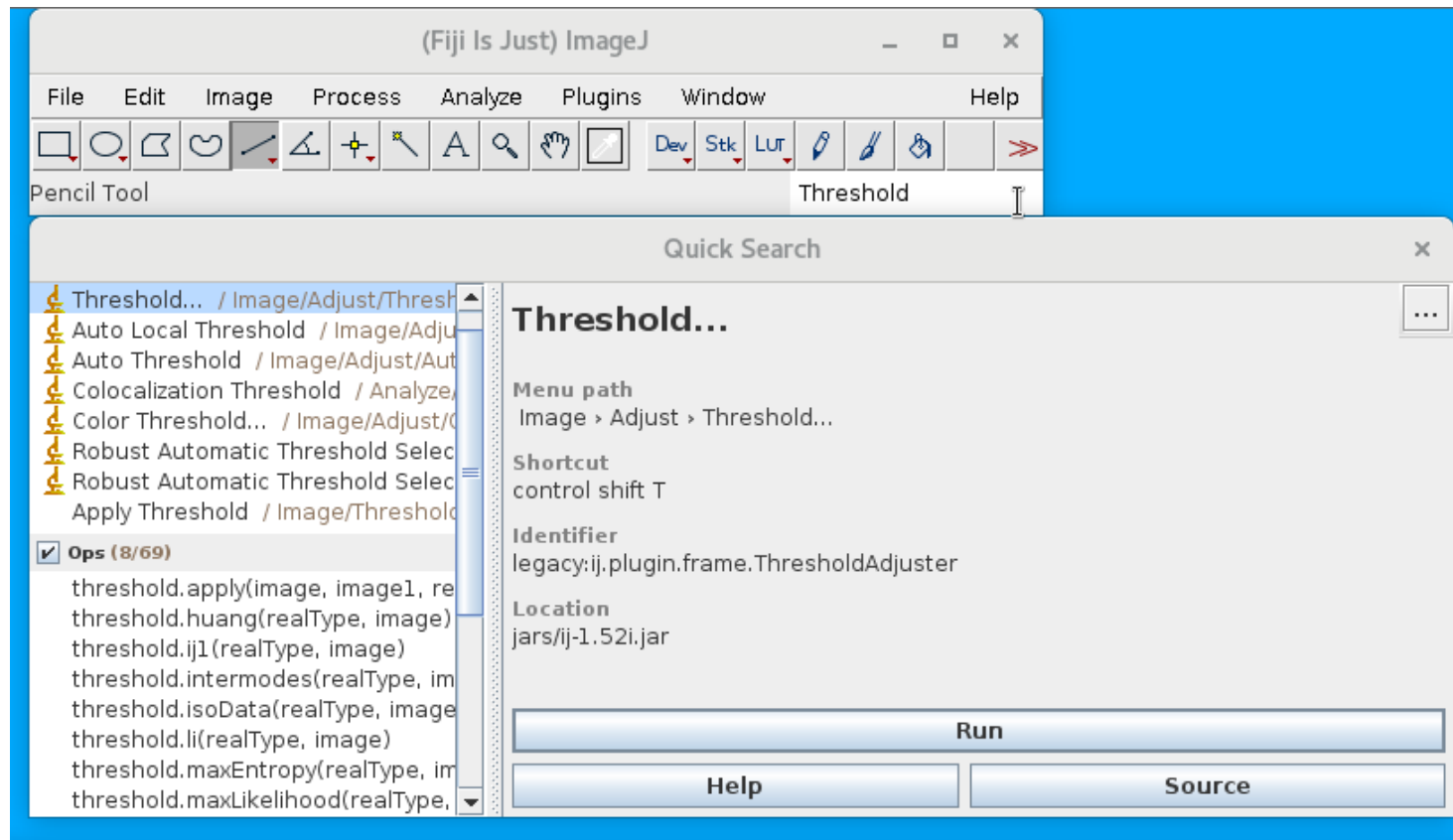
Search bar

- Type "L" to get all areas which you can search
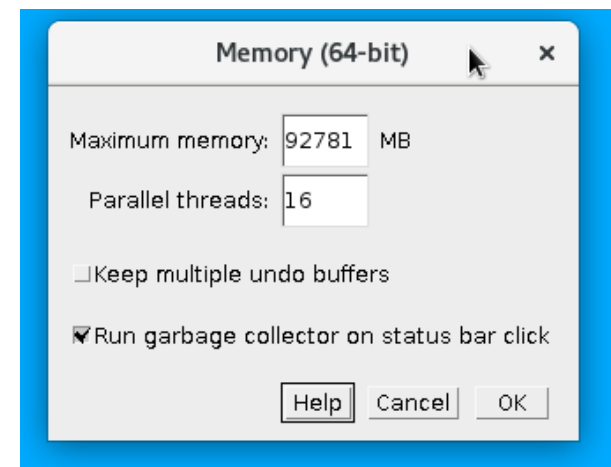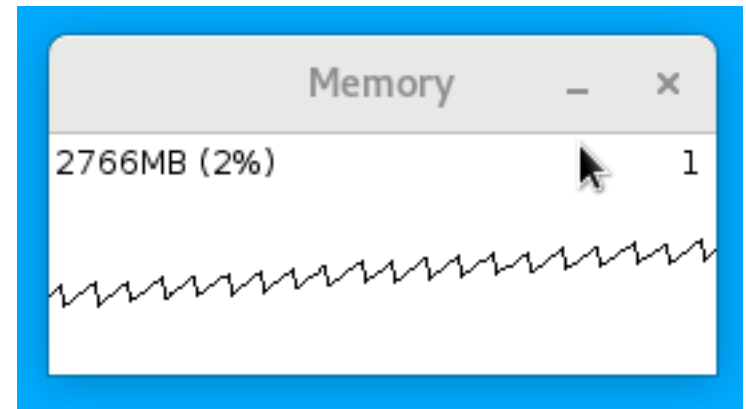
Search Bar Settings

- Edit → Options → Search Bar

Memory Management

- Search Bar "Memory"

- Plugins → Utilities → Memory Monitor

- Edit→ Options → Memory and Threads

Further Reading

- Community Help on the Forum:

  - http://imagej.net/Help

- ImageJ user guides:

  - http://imagej.net/User_Guides

- A thorough Fiji Tutorial for Beginners:

  - http://nic.uni-hd.de/analysis.html

- Additional workshops and presentations:

  - http://imagej.net/Presentations