

Training: Image Analysis and Processing using Fiji – Imaging facility PICT-IBISA - From 26th to 28th of June 2024

<u>Training's description</u>	This theoretical and practical training is an introduction to image processing and analysis using the ImageJ / Fiji software.
<u>Aim of the training</u>	Understanding the basics of image processing, applying them using Fiji, automating repetitive tasks.
<u>Audience</u>	Scientists from the Institut Curie, PhD candidates, post-docs, staff scientists.
<u>Covered topics</u>	Image manipulation, slide setup, 3D visualisation, image filtering (space and frequency), image quantifications, processing and analysis automation.
<u>Dates</u>	June, the 26 th – 28 th 2024 9:30-12:30, 14:00-18:00
<u>Location</u>	Institut Curie, Campus de Paris Salle de l'entresol du pavillon Pasteur Institut Curie, Paris
<u>Selection</u>	This training is aimed at scientists from the Institut Curie (PhD candidates, post-docs, staff scientists). 12 attendees will be picked-up on the first arrived, first served basis. <u>Caution: Attendees should bring their own laptop to the training. Instructions will be sent on how to download and install the software. Example images will also be provided</u>
<u>Organisers</u>	Patricia Le Baccon
<u>Speakers</u>	Mathieu Maurin, Mickaël Garnier, Olivier Leroy, Anne-Sophie Mace, Chloé Guedj, Aurelien Dauphin, Aurelien Mallot, Patricia Le Baccon.
<u>Program</u>	<p><u>Day 1:</u></p> <ul style="list-style-type: none"> -9h30 - ImageJ installation/parameters settings check. How to open special file formats? How to install plugins (45', Mathieu Maurin) -10h15 – What is the image's histogram? How to manipulate it? Autoscale (60', Patricia Le Baccon) -11h15 – Break -11h30 – The case of color images: notion of LUT, the different types of color images, image good practices (45', Patricia Le Baccon) -12h15 – Break -14h00 – Visualization 3D: z projections, orthogonal views/reslice, 3D reconstruction, stack-time: kymographe (Anne-Sophie Mace) -15h00 – Quantification 2D: hand selection, ROI manager, set measurements (Chloé Guedj) 16h00 - Break -16h15 – Segmentation, auto threshold, set measurements, analyse particules, find maxima, adjust image size/quality (Chloé Guedj) <p><u>Day 2</u></p> <ul style="list-style-type: none"> -9h30 – Quantification: pre-processing (median, gaussian, subtrack background... (Aurelien Maillot) -10h30 – Break -10h45 – Quantification: segmentation, redirection – Post-processing : erosion/dilation, watershed, distance map. Stardist (Mickaël Garnier) -12h00 – Break -14h00 – 3D quantification – redirection – Set measurments (Aurelien Dauphin) -14h45 – Focus on plugins: Colocalization (Patricia Le Baccon) -15h30 – Break - 15h45 – Focus on plugins: Traking (Aurelien Dauphin) <p><u>Day 3</u></p> <ul style="list-style-type: none"> - 9h30 – Automatization : Batch processing, macro recorder – Automation (Olivier Leroy) - 10h50 - Break - 11h00 – Automatization : Batch processing, macro recorder – Automation (Olivier Leroy) - 13h30 – Work on images from students (Patricia Le Baccon, Mickaël Garnier, Mathieu Maurin, Olivier Leroy, Aurelien Dauphin, Anne-Sophie Mace)