Training: Image Analysis using Fiji – Imaging facility PICT-IBiSA

From 20th to 22th of May 2019

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| **Training’s description** | This theoretical and practical training is an introduction to image processing and analysis using the ImageJ / Fiji software. |
| **Aim of the training** | Understanding the basics of image processing, applying them using ImageJ, automating repetitive tasks. |
| **Audience** | Scientists from the Institut Curie, PhD candidates, post-docs, staff scientists. |
| **Covered topics** | Image manipulation, slide setup, 3D visualisation, image filtering (space and frequency), image quantifications, processing and analysis automation. |
| **Dates** | May, the 20th - 22th 2018  9:30-12:30, 14:00-18:30 |
| **Location** | **Institut Curie, Campus d’Orsay**  **Salle polyvalente du bâtiment 111**  **Institut Curie, Orsay** |
| **Selection** | This training is aimed at scientists from the Institut Curie (PhD candidates, post-docs, staff scientists).20 attendees will be picked-up on the first arrived, first served basis.  ***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.* |
| **Organisers** | Patricia Le Baccon |
| **Speakers** | Ludovic Leconte, Mathieu Maurin, Mickaël Garnier, Olivier Leroy, Aurelien Dauphin, Anne-Sophie Mace, Patricia Le Baccon. |
| **Program** | **Day 1:**  ***Morning***  -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? (60’, Patricia Le Baccon)  *-11h15 – Break*  -11h30 – The case of color images: notion of LUT, the different types of color images (overlay vs composite) (45’, Patricia Le Baccon)  ***Afternoon***  -14h00 – Distance, calibration of the image, scale bar (30’, Ludovic Leconte)  -14h30 - Two ways to produce a montage in less than a minute! (45’, Ludovic Leconte/Aurelien Dauphin)  -15h15 - How to work on 3D images: projections and 3D visualization (60’, Mathieu Maurin)  Plugin 3D (Ludovic)  *16h15 - Break*  -16h30 - Image enhancement to prepare quantification – Spatial and Frequential filters (60’, Olivier Leroy)  **Day 2**  ***Morning***  -9h30 – Image enhancement to prepare quantification: morphomath (60’**,** Mickaël Garnier)  -10h30 – Connexity analysis, objects counting/quantification in 2D (45’, Aurelien Dauphin)  *-11h15 – Break*  -11h30 - Connexity analysis, objects counting/quantification in 3D (60’, Patricia Le Baccon)  ***Afternoon***  -14h00 – Focus on plugins: Tracking (45’, Anne-Sophie Mace)  -14h45 – Focus on plugins: Colocalization (45’, Anne-Sophie Mace)  *-15h30 – Break*  -15h45 - An introduction to automation of image processing (90’, Mickaël Garnier)  **Day 3:**  ***Morning***  -9h30 – Practice on images (60’, Patricia Le Baccon/Mickaël Garnier)  -10h30 – Batch processing – Automation ( 20’, Patricia Le Baccon)  *-10h40 - Break*  -11h00 – Macro recorder – Automation (90’, Mathieu Maurin)  ***Afternoon***  -13h30 – Work on images from students (Patricia Le Baccon, Mathieu Maurin, Ludovic Leconte, Mickaël Garnier, Olivier Leroy, Aurelien Dauphin, Anne-Sophie Mace) |