Requirements for running the pipeline

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FIJI

The following plugins are required in FIJI

1. Bio-formats
2. CSBDeep
3. IJPB- Plugins
4. SCF-MPI-CBG
5. Stardist

On FIJI go to *Help > Update* and then **"Manage update sites"** and check the above mentioned plugins boxes. Click **"close"** and then **"Apply changes"**. Then restart FIJI.

Standalone tools

We need Cellpose for segmenting cells in the EdU channel.

1. Cellpose

First of all you need to make sure you have python and other libraries in your computer.

1.1 Python Installation using Anaconda

On Mac

- Mac comes with python 2.7 installation in it
- You can add the latest python version and set of libraries and modules using Anaconda installation.

Install Anaconda on Mac

- Download the [graphical macOS installer](#)
- Double-click the downloaded file and click continue to start the installation.
- Answer the prompts on the Introduction, Read Me, and License screens.
- Click the Install button to install Anaconda in your ~/opt directory (recommended).

- On the Destination Select screen, select Install for me only.
- Click the continue button. In next window, To install Anaconda without PyCharm, click the Continue button.
- Click close on last window.

Verify the installation:

- `Cmd+Space` to open Spotlight Search and type "Navigator" to open the program.
- `Cmd+Space` and type "Terminal" to open terminal. Type python and hit Enter . You should see something like this:

```
Python 3.7.5 (default, Oct 25 2019, 10:52:18)
[Clang 4.0.1 (tags/RELEASE_401/final)] :: Anaconda, Inc. on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

- Type `conda list` and hit Enter. If Anaconda is installed and working, this will display a list of installed packages and their versions.

- If you see the following, it means, you have the python from Mac as your default. To make python from Anaconda as your default.

```
Python 2.7.15 (default, Jan 12 2019, 21:07:57)
[GCC 4.2.1 Compatible Apple LLVM 10.0.0 (clang-1000.11.45.5)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

- To make python from Anaconda as your default python, open terminal again. Type `export PATH="/Users/username/anaconda3/bin:$PATH"` and hit Enter.

On Windows

Install Anaconda on windows

- Download installer: https://www.anaconda.com/distribution/#windows
- Double click the installer to launch. **To prevent permission errors, do not launch the installer from the Favorites folder.**
- Click Next. Read the licensing terms and click "I Agree".
- Select an install for "Just Me" unless you're installing for all users (which requires Windows Administrator privileges) and click Next.
- Select a destination folder to install Anaconda and click the Next button. **Install Anaconda to a directory path that does not contain spaces or unicode characters. Do not install as Administrator unless admin privileges are required.**

- Choose whether to add Anaconda to your PATH environment variable. We recommend not adding Anaconda to the PATH environment variable, since this can interfere with other software. **Instead, use Anaconda software by opening Anaconda Navigator or the Anaconda Prompt from the Start Menu.**
- Choose whether to register Anaconda as your default Python. Unless you plan on installing and running multiple versions of Anaconda or multiple versions of Python, accept the default and leave this box checked.
- Click the Install button. If you want to watch the packages Anaconda is installing, click Show Details.
- Click the Next button. To install Anaconda without PyCharm, click the Next button.
- After a successful installation you will see the "Thanks for installing Anaconda" dialog box.

Verify the installation:

- Click Start, search or select Anaconda Navigator from the menu.
- Click Start, search or select Anaconda Prompt from the menu. Type `conda list` and hit Enter. If Anaconda is installed and working, this will display a list of installed packages and their versions.
- Type the command `python` and hit Enter. This command runs the Python shell. If Anaconda is installed and working, the version information it displays when it starts up will include "Anaconda". To exit the Python shell, enter `quit()` and hit Enter.

1. 2 Adding Cellpose

- On Mac:
  - Open terminal. Use `cmd + space`, type Terminal and hit Enter.
  - In the terminal type `pip install cellpose[gui]` and hit Enter.
  - For details: https://cellpose.readthedocs.io/en/latest/index.html

- On Windows:
  - Open command prompt and type `pip install cellpose[gui]` and hit Enter
  - If pip is not available, follow this page: https://phoenixnap.com/kb/install-pip-windows

2. Ilastik - Optional (if you want to explore)

- Follow this page for more details on installation: https://www.ilastik.org/download.html
- Pipeline of interest: Pixel classification