

## LSM 710 – Zen 2009

How to create a multitrack configuration with simultaneous acquisition of all the channels

*(faster acquisition, prevents filter wheel damage)*

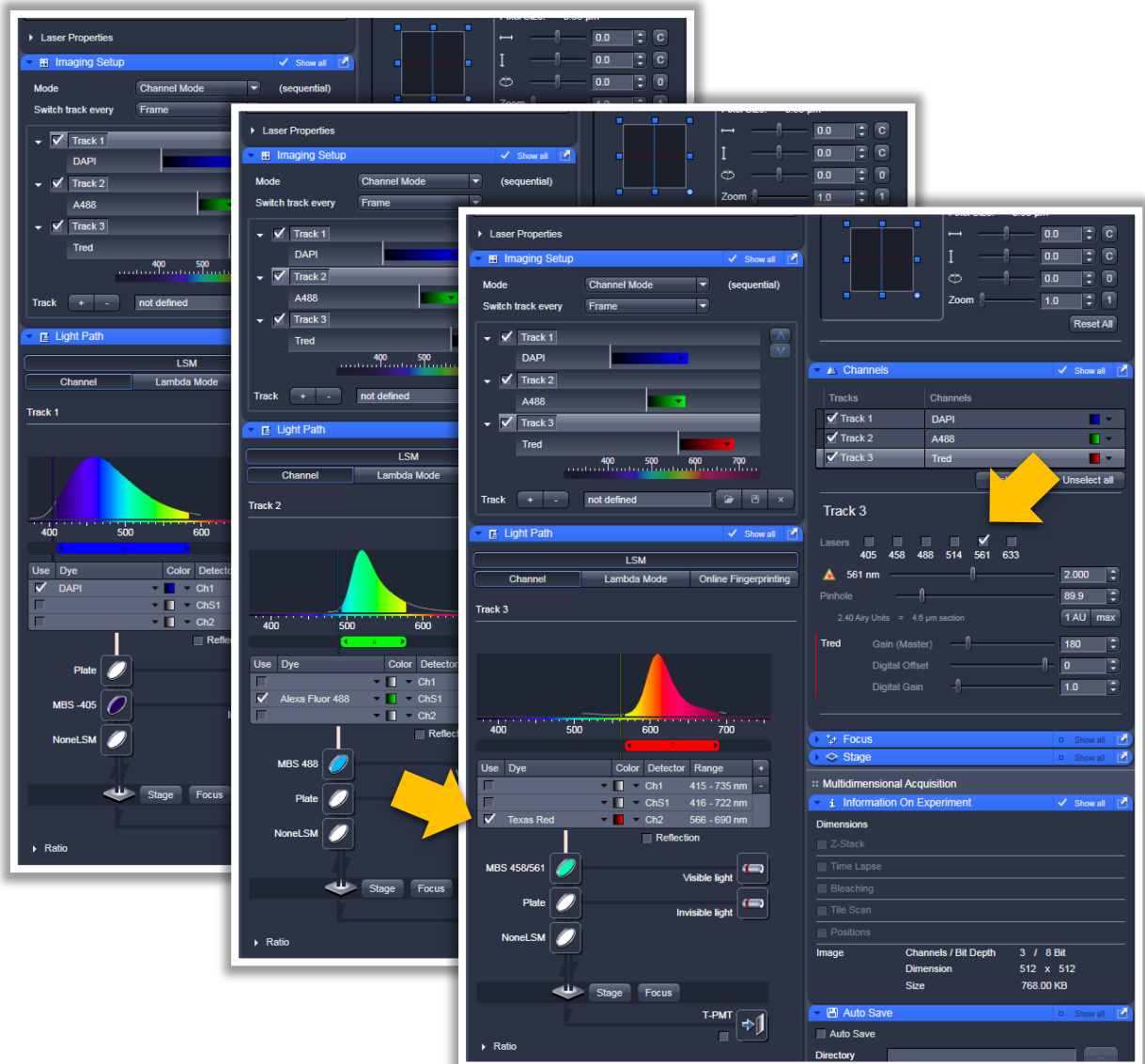
### 1) Create a multitrack configuration using the smart setup (choose best signal)

The screenshot shows the 'Smart Setup' window with the following configuration:

- Configure your experiment:**
  - Dye: DAPI (Blue)
  - Alexa Fluor 488 (Green)
  - Texas Red (Red)
- Proposals:**
  - Fastest
  - Best signal
  - Best compromise

Each proposal shows a bar chart for 'Emission signal' and 'Speed' across three channels (Blue, Green, Red). The 'Best signal' proposal shows the highest signal levels for all channels. Below the charts are three tracks (Track 1, Track 2, Track 3) showing the emission spectra for each dye. Track 1 contains all three dyes, Track 2 contains the Green dye, and Track 3 contains the Red dye. The 'Apply' and 'Cancel' buttons are visible at the bottom right.

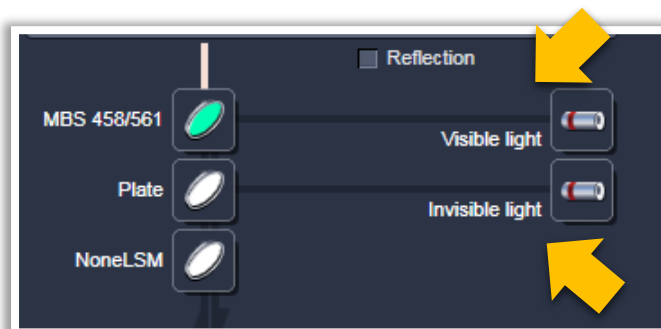
## 2) Check what are the lasers that are in use for each channels



You can see that for each track you have a different mirror configuration. The goal is to have the **same mirrors everywhere**.

You will have to select the appropriate mirrors for that.

You have two lightpaths: invisible (UV, DAPI) and visible (all the other laser lines).

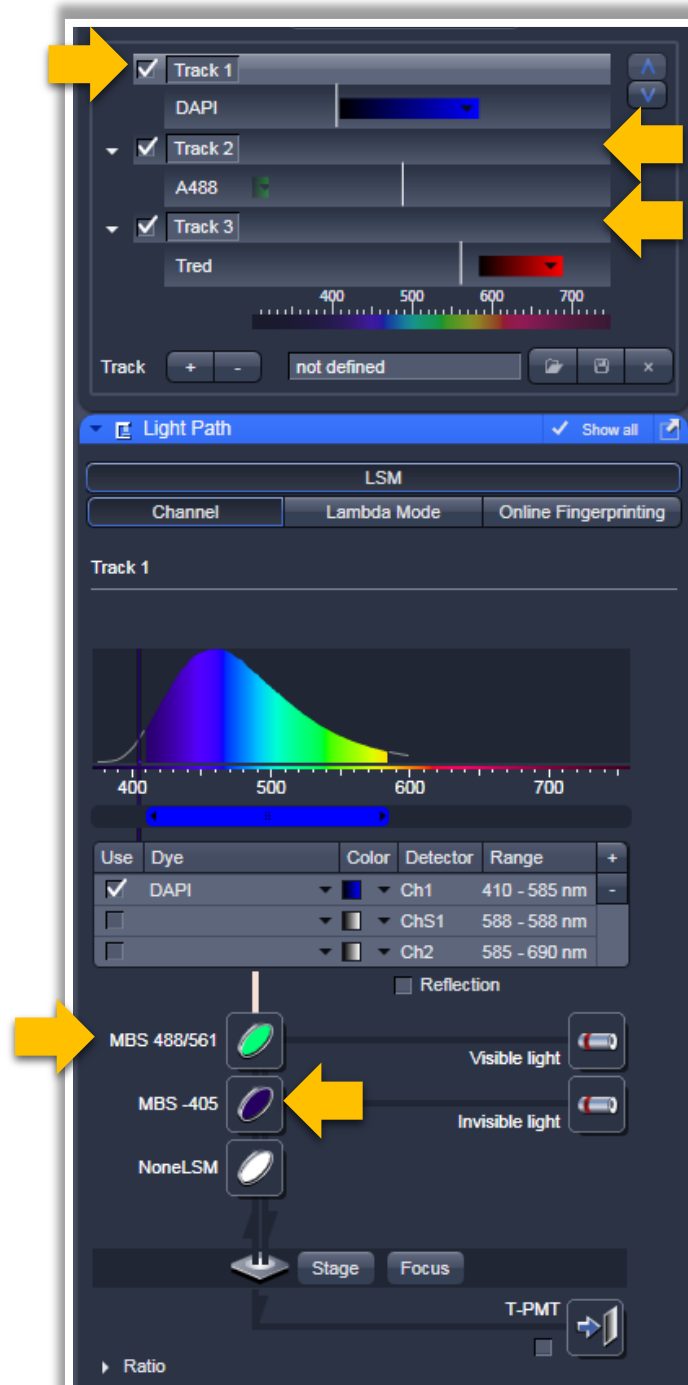


### 3) Select the same mirrors in each track

As an exemple in this typical triple channel (DAPI-Alexa488-TxRED) configuration, we will use :

**Invisible lightpath:**     **MBS (Main Beam Splitter) 405**  
*This mirror lets only the 405 laser line go through it.*

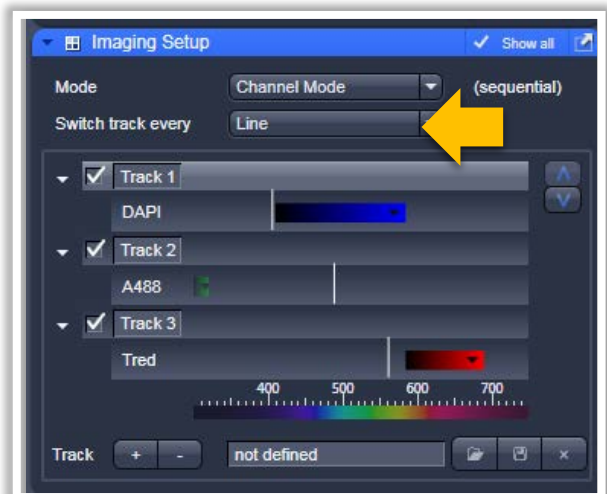
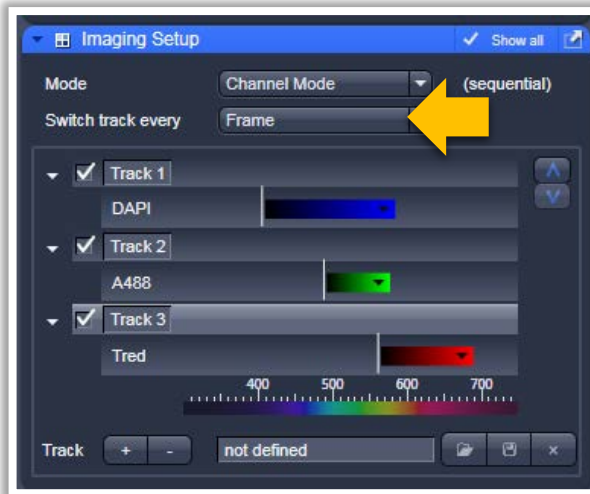
**Visible lightpath:**     **MBS 488/561**  
*This mirror lets both the 488 and the 561 laser lines go through it.*



Set these mirrors in all the tracks by clicking on the mirrors.

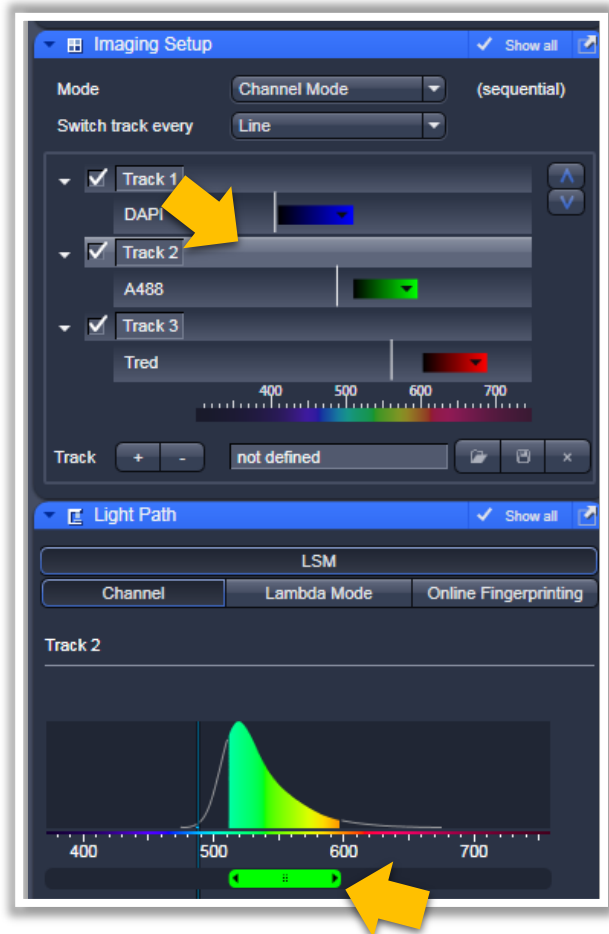
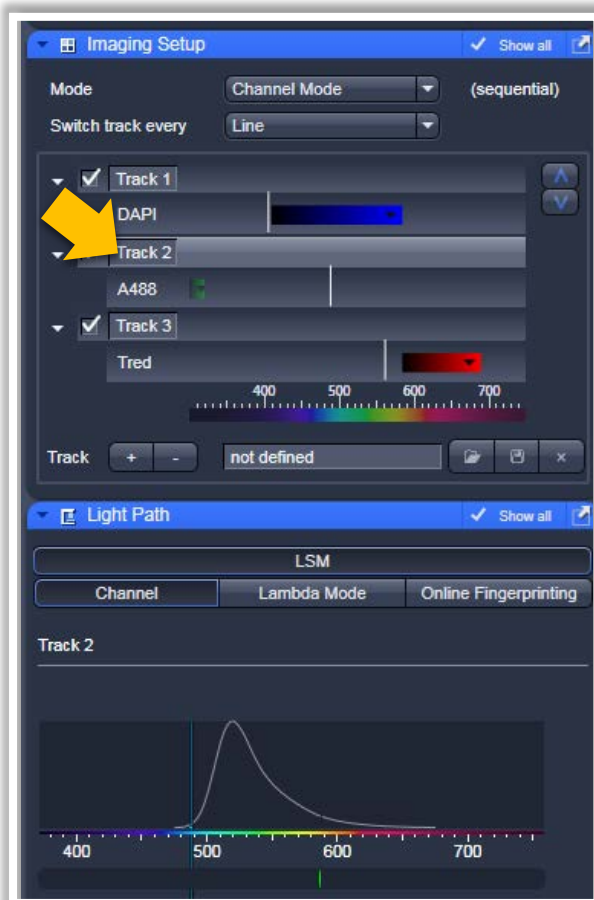
#### 4) Change track switching mode

Change switch track every from « frame » to « line »

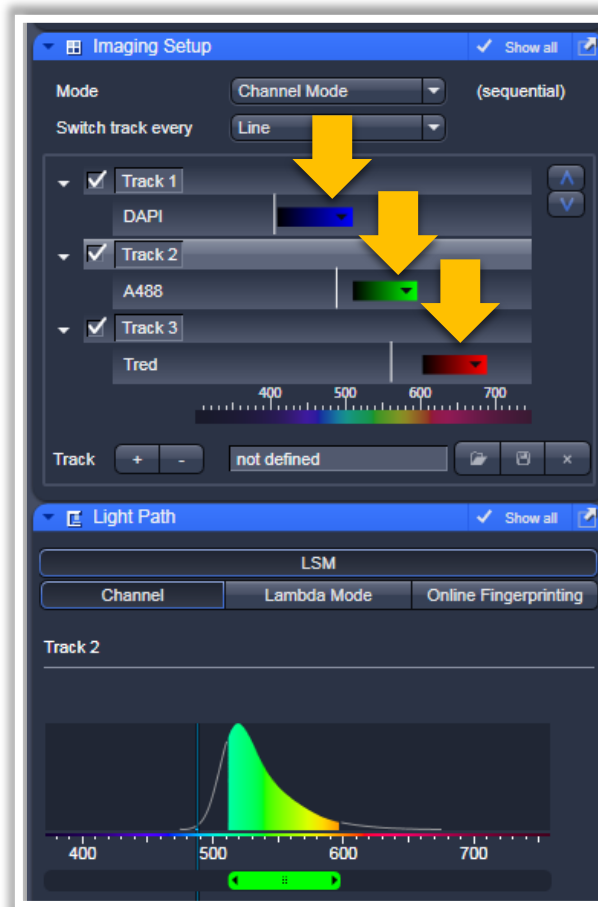


You should get a warning message telling you that some settings will be overwritten. Click OK to proceed.

Upon switching, you might have to adjust the actual spectral band that will be used to acquire the image in some channels:



Resize the spectral band to your liking, keeping in mind that in this mode **you can't have bands overlap between consecutive channels**:



You can proceed with the rest of the settings as usual.