Quick SMIS Help

Main steps to design a simulation :

1/ If there is a similar simulation available, load it with « *Load simulation parameters ».*

2/ Enter the name of your simulation in the « *SMIS Simulation Title* ».

3/ Choose whether this is a 2D or 3D simulation with «*3D Off-On*».

4/ Set the number of different fluorophores (e.g. for multicolor experiments) you want to use in «*Number of fluorophores*».

5/ Load the virtual samples for each defined fluorophore via the « *Load virtual sample* » menu. You can create virtual samples with the menu “*Create virtual samples*”.

6/ Set up labeling and photophysics for each fluorophore with the « *Setup Fluorophore* » menu. In this menu, you can load existing fluorophores, or create your own fluorophore by entering “*Define new fluorophore*”.

7/ Decide whether this is « *sptPALM »*, « *qPALM »* or « *FRET »* experiment. The fluorophores and virtual samples must have been chosen accordingly.

8/ Defined the number of lasers to be used and set up each laser with the « *Setup Laser*» menu.

9/ Define the final frame size of the detector (and output stack) by setting the « *Binning factor*»

10/ Define the « *Number of frames*», « *Raster size*», « *Frametime*» and « *Time between frame time*».

11/ Define eventual « *Sample drift* ».

12/ Decide whether this is a single or two-channel experiment with the « *Number of acquisition channels* » toggle.

13/ Set up the microscope « *Objective and PSF* » parameters.

14/ Set up the « *Emission Filters* », and eventually the parameters of the « *EMCCD camera* » (such as the EMCCD gain).

15/ Define the « *Fluorescence background* ».

16/ Choose the « *Output Directory* » and « *Stack File Name* ».

17/ Save your simulation with the « *Save simulation parameters* » button. Saving can be done at any time during the process.

18/ Finally launch the simulation with the « *Launch simulation* » button (single molecule mode) or « *Launch ensemble simulation* » (ensemble mode).