**Nikon AX Confocal/Multiphoton microscope**

* **Specifications:**
* Microscope body:
  + Nikon Eclipse Ti2-E
* Sample holder (compatible with)
  + Glass slides
  + Chambered glass slides (Ibidi…)
  + Circular glass/polymer/plastic bottom culture dishes (diameter: 20mm, 25mm, 30mm, 35mm,40mm). Be careful to check the working distance of the objective when using plastic bottom dishes
  + \* 4, 12, 24, 48,96 well plates with plastic/glass bottom. Be careful to check the working distance of the objective when using plastic bottom plates\*
* Objectives:
  + 4X (Plan, Apo, ʎ, NA 0.1 , WD 30mm)
  + 10X (Plan, Apo, ʎ, NA 0.45, WD 4mm)
  + 20X (Plan, Apo, LWD, ʎS, Air, NA 0.95, WD 950um, water)
  + 40X (Apo, LWD, Water, DIC,NA 1.15, WD 610um)
  + 60X (Plan, Apo LWD, ʎS, DIC, Water, NA 1.42, WD 150um)
  + 100X (SR, Apo, TIRF, Oil, DIC, NA 1.49, WD 150mm)
* Light Source:
  + Confocal: LUA-S4 Laser Unit 405/ 488/ 561/ 640
  + Multiphoton: Coherent Chameleon Discovery
  + Two channel: Tunable(820-1300nm) and Fixed (1040nm)
  + Nikon D-LED white light source (for epifluorescence)
  + LED lamp (for diascopic transmission light illumination)
* Scanner:
  + Galvano scanner (High quality image acquisition upto resolution 8192 X 8192 pixels)
  + Resonant scanner (Fast image acquisition **upto 30FPS** at resolution 512 X 512 pixels)
* Detectors:
  + - Descanned detectors for both Confocal and Multiphoton modes:
      * MultiAlkali(1):Fixed detection range(420-476nm)
      * GaAsP(3):One fixed detection range(662-737nm) and two tunable(400-750nm)
    - NonDescanned Detectors (NDD) for multiphoton mode:
      * 4 fixed detection range detectors (415-485nm, 506-594nm, 604-676nm, 698-750nm)
* Stage:
  + Fully motorized
  + Can be programmed and setup for multipoint automated imaging experiments
  + Nikon Perfect Focus System (PFS) for hardware based autofocus based on detection of the reflection from the coverslip
  + Autofocus: based on contrast of the images from different in the z-stack
  + Water dispenser for 60X Objective
  + Option to add incubation chamber for temperature control and CO2 supply for live cell imaging
* Software:
  + NIS Elements (current version, 5.42.03) with ND acquisition and JOBS workflow module