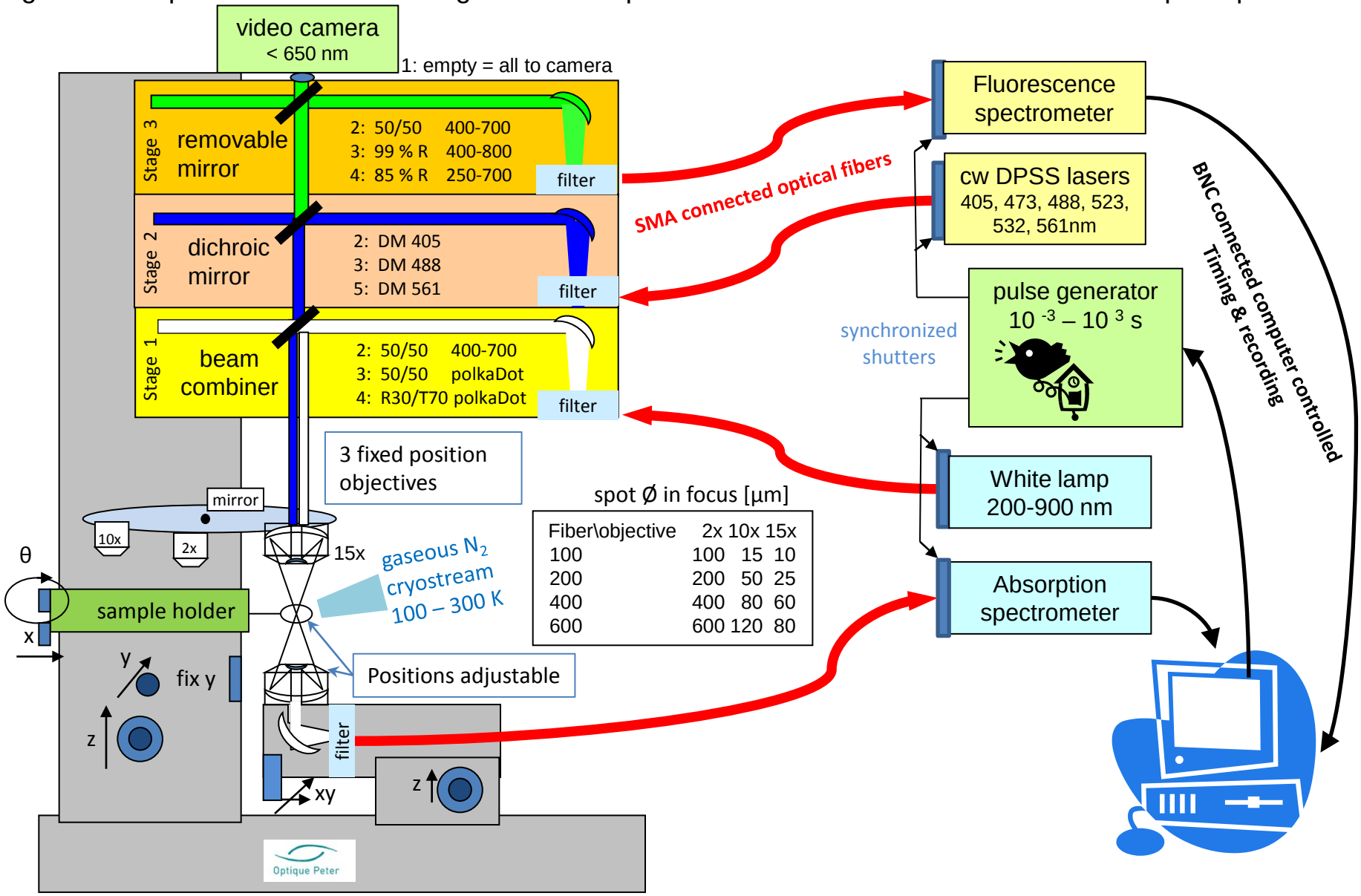
CAL(AI)²DOSCOPE

Cryogenic **A**bsorption/**L**uminescence **A**lignement **I**ndependent **A**lternative **I**ntermittent **D**etection **O**ptical µ**SCOPE**



The microscope is fiber-coupled to light sources/detectors

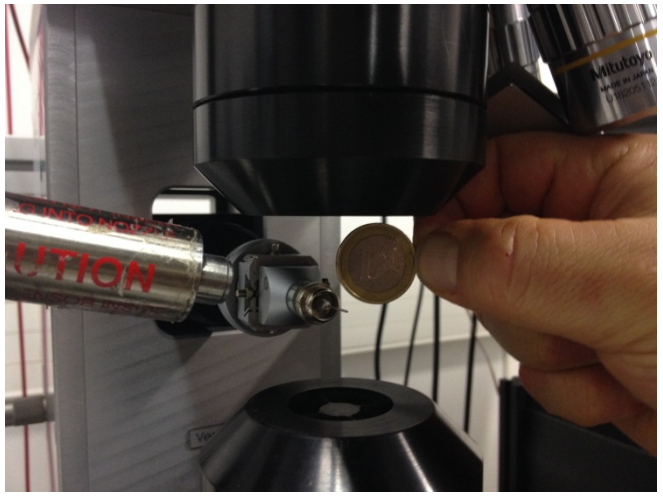
Cryogenic **A**bsorption/**L**uminescence Microspectrometer CAL(AI)^{2}DOSCOPE

Quasi-synchronous rapid and continuous recording

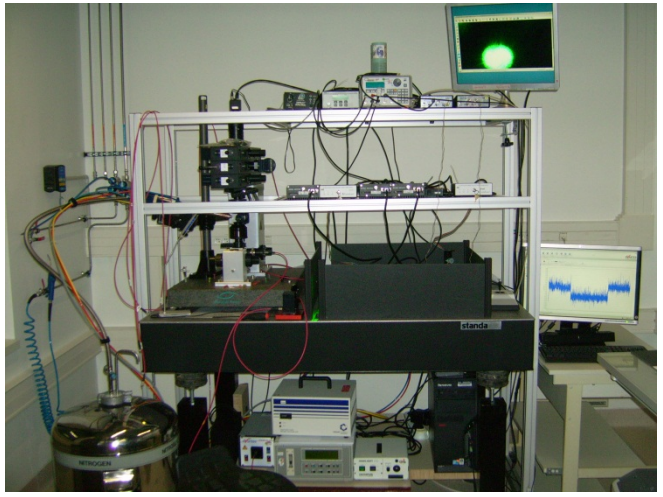
absorption and luminescence spectra

of precisely identical portions of nano-volumic samples

- Easily interchangeable beamsplitting mirrors with different reflection/transmission ratios allow for adaptable distribution of limited photons between the different channels.
- Fiber-coupled light sources and detectors for modularity and easy evolution.
- A camera-coupled microscope-like mechanical design with the sample holder mounted on a motorized goniometer head assures maximal flexibility and convenience in sample handling and alignment, beam focusing, objective exchange.
- Optics (objectives, mirrors, beamsplitters, detectors) were optimized for maximal spectral flatness in the UV/VIS wavelength range (200-800 nm).
- A gaseous nitrogen cryostat allows maintaining the sample at controlled temperatures between 100 and 300 K.
- Depending on fiber diameter (0.1 to 0.6 mm) and objective magnification (2x to 15x), spot sizes from 10 to 600 µm diameter can be realized, corresponding to sub-picoliter to sub-microliter sample volumes, respectively.



50 mm space available around the sample



Localized in the newly contructed IBS at the EPN site

Microscope constructed by

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