OTHER EQUIPMENT

- Different upright 4 color imaging microscopes with camera
- Different basic optical/fluorescence microscopes for cell cultures
- FACS Calibur (1 laser, 3 fluorochromes)

COORDINATION

- Prof. dr. Jelle Hendrix – jelle.hendrix@uhasselt.be
- Prof. dr. Marcel Ameloot – marcel.ameloot@uhasselt.be
- Prof. dr. Werend Boesmans – werend.boesmans@uhasselt.be
- Dr. Bieke Broux (flow cytometry) – bieke.broux@uhasselt.be

COLLABORATION OPTIONS

- Fee-for-Service: performing the relevant experiments for you
- Consultancy and training: guiding your experimental set-up and training researchers at your location or at our facilities
- Research collaboration: open for joint grant applications when the project is complementary with our own research lines and goals

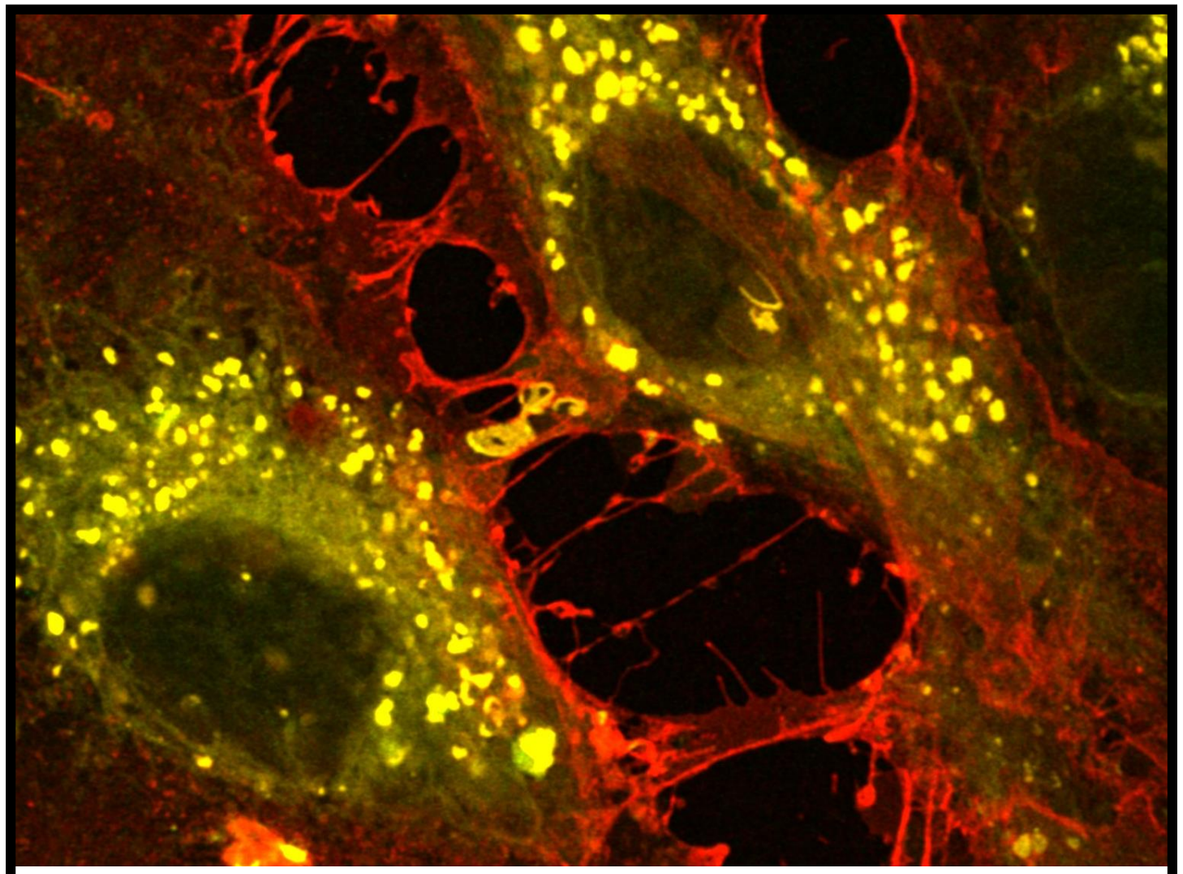
RECENT PUBLICATIONS

- Schrimpf et al. Methods 2018, doi:10.1016/j.ymeth.2018.01.022
- Vandenberk et al. J. Phys. Chem. B 122, 15, 4249-4266
- Slenders et al. Chem. Commun., 2018,54, 4854-4857
- Penjweini et al. Journal of Pharmacy and Pharmacology 2017, doi: 10.1111/jphp.12779
- Vanheusden et al. Scientific Reports 2017,volume 7, Article number: 663
- Bogie et al. Multiple Sclerosis Journal 2017. Vol 24, Issue 3, pp. 290 - 300

BUSINESS DEVELOPER
An Voets, PhD
UHasselt – Biomedical Research Institute

T +32 (0) 497 06 75 34

an.voets@uhasselt.be



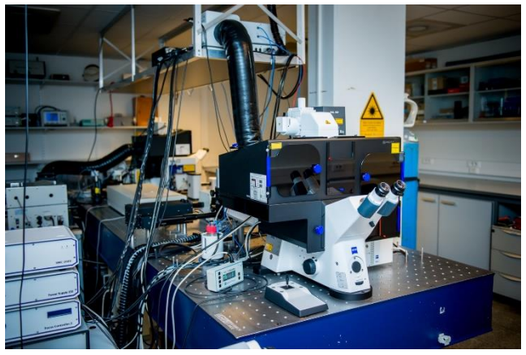
COLLABORATION OPPORTUNITY

Advanced Optical Microscopy and Flow Cytometry Centre

- Development of cutting edge optical microscopy
- Application of imaging in the life/material sciences
- Imaging consultancy and services

UHASSELT
KNOWLEDGE IN ACTION

SUPER-SENSITIVE 3D IMAGING CONFOCAL MICROSCOPE



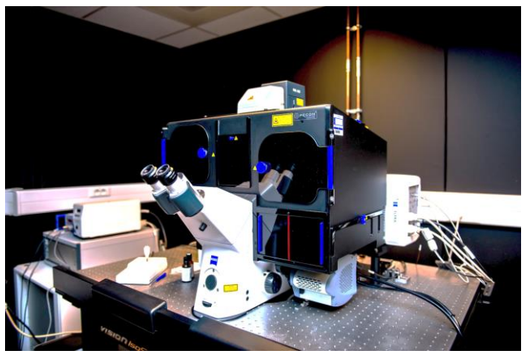
Microscope:
- Zeiss LSM880
- different low/high NA and magnification objective lenses
- temperature and CO_2 control
- axial drift control

Excitation:
- SpectraPhysics MaiTai DeepSee 100 fs pulsed titanium sapphire 690-1050 nm
- 488-nm pulsed laser diode
- 458/488/514/543/633-nm CW lasers
- rotatable polarization control at excitation side

Detection:
- 34-channel combined GaAsP spectral QUASAR and PMT detectors
- 32-element high-resolution Airyscan detector
- Big2 polarization-sensitive (non-) & descanned detectors
- Becker-Hickl hybrid detector
- Becker-Hickl SPC830 time-correlated single photon counting

Applications:
- confocal laser scanning microscopy
- live-cell, time-lapse 3D via z-stacking and large sample tile scans
- two/multiphoton/deep imaging
- fluorescence lifetime imaging microscopy (FLIM)
- fluorescence correlation spectroscopy (FCS) and image correlation spectroscopy (ICS)
- label-free imaging via second harmonic generation (SHG)
- 1.7x superresolution imaging via Airyscan

BREAKING THE DIFFRACTION BARRIER OFF-THE-SHELF



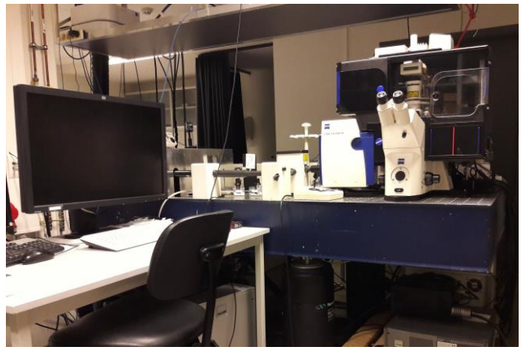
Microscope:
- Zeiss Elyra PS.1
- different low/high NA and magnification objective lenses
- temperature and CO2 control
- axial drift control

Excitation:
- 405/488/650/633-nm CW lasers
- widefield, total internal reflection and structured illumination
- framewise alternating excitation

Detection:
- PCO Edge 4.2 CMOS 1280x1280 camera
- Andor iXon DU-897 512x512 EM-CCD

Applications:
- live-cell, time-lapse and large sample tile scans
- videorate imaging
- temporal image correlation spectroscopy (TICS)
- 2x superresolution imaging via structured illumination (SIM)
- 10x superresolution imaging via PALM/STORM
- single-molecule investigation
- combined electrophysiology-fluorescence experiments

CONFOCAL WORK HORSE



Microscope:
- Zeiss LSM510-META
- different low/high NA and magnification objective lenses
- temperature and CO2 control

Excitation:
- SpectraPhysics MaiTai DeepSee 100 fs pulsed titanium sapphire 690-1050 nm
- 458/488/514/543/633-nm CW lasers
- rotatable polarization control at excitation side

Detection:
- PMT based spectral META detector
- Becker-Hickl hybrid detector (non-) & descanned
- Becker-Hickl SPC830 time-correlated single photon counting

Applications:
- confocal laser scanning microscopy
- live-cell, time-lapse 3D via z-stacking and large sample tile scans
- two/multiphoton/deep imaging
- fluorescence lifetime imaging microscopy (FLIM)
- fluorescence correlation spectroscopy (FCS) and image correlation spectroscopy (RICS)
- label-free imaging via second harmonic generation (SHG)

FLOW CYTOMETRY

Equipment:
- High speed 7 color cell sorter (FACS Aria II)
- 4-laser 16 color flowcytometric analyzer (BD LSR Fortessa)

Applications:
- flow cytometry
- cell sorting of different populations for further analysis or culturing
- cytokine analysis (FC + CBA)
- in vitro proliferation analysis
- in vitro survival analysis
- measurement of extracellular vesicles and nanoparticles
- uptake assays