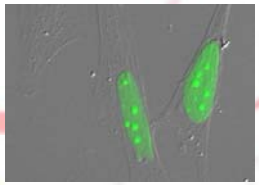
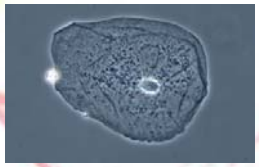
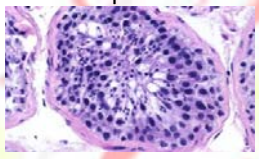
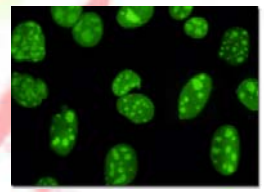
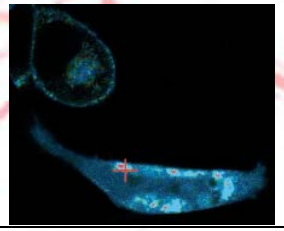
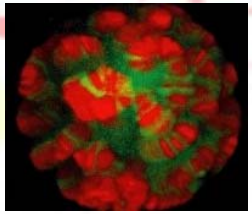
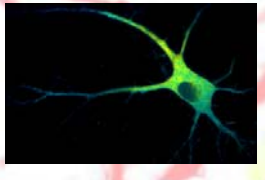
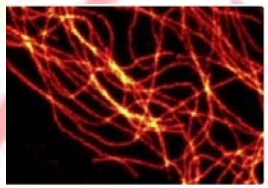
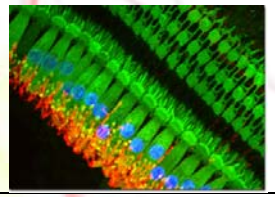
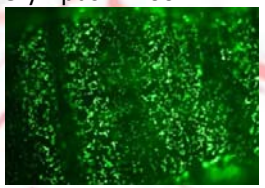
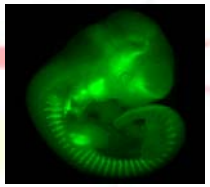
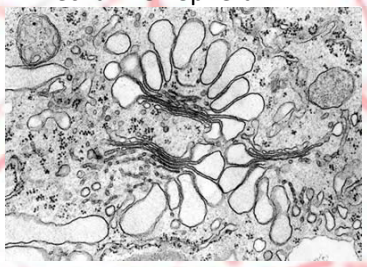
Technology and equipment at the Bioimaging Center

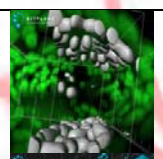
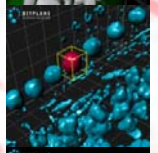
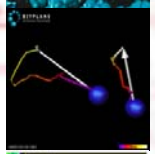
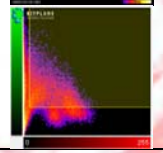
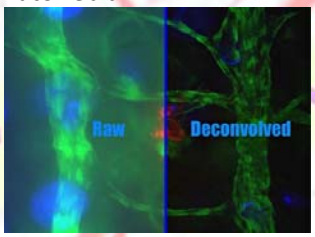
Light microscopy / Widefields	Name	Type	Applications and equipment
	LEICA AF6000LX 	Widefield fluorescence microscope	– Timelaps imaging, CO2 and temperature controlled (14°C-37°C) – 3D stacks, multipositions, grid stitching – Fast multifluorescence imaging – Low signal imaging – "Medium throughput" 96 well plate imaging – Wide choice of fluorescence filters and lenses
	Nikon BioStation 	Widefield fluorescence microscope	– Simple timelapse imaging, CO2 and temperature controlled (37°C) – Phase contrast, up to 2 fluorescent dyes – 3D stacks, multipositions
	Nikon Eclipse 80i 	Widefield fluorescence microscope	– Upright, manual – Color camera for histology – Ideal to check samples
	ZEISS AXIOIMAGER Z1 	Widefield fluorescence microscope	– Upright, motorized – Ultrasensitive cooled CCD camera – Wide choice of fluorescence filters

Light microscopy / Confocals	Name	Type	Applications and equipment
 	Zeiss LSM700 	Confocal microscope	– Upright – 405, 488, 555, 639 nm laserlines – High quality and sensitivity but ease of use – All classical confocal analysis available
	Zeiss 710 NLO 	2-photon confocal microscope	– Upright – 2-photon laser (690 - 1040nm) + 405, 450, 488, 512, 543, 590, 633 nm laserlines – Non descanned detectors (NDDs) – GaAsP detector for ultra low signal GFP samples – Imaging of thick samples – Reduced bleaching and photodamage
	3I Marianas 	Spinning disc confocal microscope	– Inverted – 488 and 560 laserlines – Ultrasensitive EM-CCD camera for more speed and better signal to noise at fast speed – Optional Dual-view (for simultaneous 2 color fluorescence imaging) – Temperature controled – Fast confocal microscopy of rapidly occurring cellular or biological events
	Leica Gated STED CW 	Superresolution confocal microscope	– 2 HyD detectors -> Increased sensitivity -> faster imaging – Resonance scanner -> faster imaging – 2 Avalanche photodiodes -> for very low signal – CW laser enables the use of conventional dyes such as Alexa 488, FITC and Oregon Green and established fluorescent proteins such as YFP – Resolution of sub-cellular details below 80 nm – 488, 514, 543, 590, 633 nm laserlines for traditional confocal imaging
	ZEISS LSM 780 	Confocal microscope 	– Inverted – 405, 454, 488, 514, 543, 594, 634 nm laserlines – GaAsP Spectral detector -> color unmixing, online fingerprinting – Autofocus

Light microscopy / Other	Name	Type	Applications and equipment
	Olympus LV200 	Biolimunescence widefield workstation	– Cooled (-90°C) EM-CCD camera for ultra-low signal recording – Temperature and CO2 controled – Possibility to image fluorescence (red and green) together with bioluminescence) – For very long timelaps imaging of slow occurring events: no photodamage and non invasive for the cells
	Nikon SMZ1000 	Fluorescence stereomicroscope	– Color camera – Filters for DAPI, GFP and DsRed
 	Molecular Devices ImageXpress Micro XL	Widefield High Content Screening System	– Several magnifications – Temperature, humidity and CO_2 control – For 6 through 384 well plates – Robotized arm for multiplate experiments (->36 plates) – Camera: 4.66Mpixel scientific CMOS with large field of view – MetaXpress High Content Image Acquisition & Analysis Software – AcuityXpress Software for High Content Data Visualization and Analysis -> generates relevant numerical data from high-content assays at every level, from extracting features from individual cells through multi-parametric analysis and visualization of multiple assays – Digital Confocal Technology

Electron microscopy

Name	Type	Applications and equipment
 FEI Tecnai™ G2 Sphera 	Transmission electron microscope	- 200 kV High voltage - Equipped for tomography - Possibility to use a Cryo-stage - 2000 by 2000 pixel high resolution digital camera
 JEOL JSM-6510LV 	Scanning electron microscope	- Low vacuum mode (interesting for biological samples) - For fast characterization and imaging of fine structures (high resolution of 3.0 nm at 30 kV) - Enables observation of specimens up to 150 mm in diameter

Imaging Software	Name		Type	Applications and equipment
BITPLANE Scientific Software	Imaris		3D and 4D Real-Time Interactive Image visualization and analysis	– Visualize volume images and objects in real time using a rich selection of rendering modes. – Automatically or manually identify objects based on morphology, intensity, size and many more parameters. – Validate segmentation by superimposing objects on the original volume image. – Interact dynamically with individual objects. – Create the most impressive pictures and animations for your publication – Measure volumes, distances, ... in 3D – Automatically count objects – Track particles – Colocalization analyzes
	Imaris MeasurementPro			
	ImarisTrack			
	ImarisColoc			
AutoQuant X AutoDeblur AutoVisualize NEW Version 2.2.0	AutoDeblur		Advanced Image Deconvolution for Life Science	The resolution of all microscopes is limited by diffraction. This is one of the most common causes of haze and blur in microscopy images. Deconvolution can correct this problem, not only removing the haze and blur, but restoring vital detail to datasets. – Powerful deconvolution tool for life science research. – Retrieve better data from your images using this complete suite of 2D and 3D algorithms – Advanced Blind Deconvolution algorithm which is both iterative and constrained – Batch processing – STED deconvolution module
Scientific Volume Imaging Deconvolution · Visualization · Analysis	SVI Huygens Essentials			