

CellNanOs.Importer

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CellNanOs

Comprehensive Understanding of Cellular Microcompartments

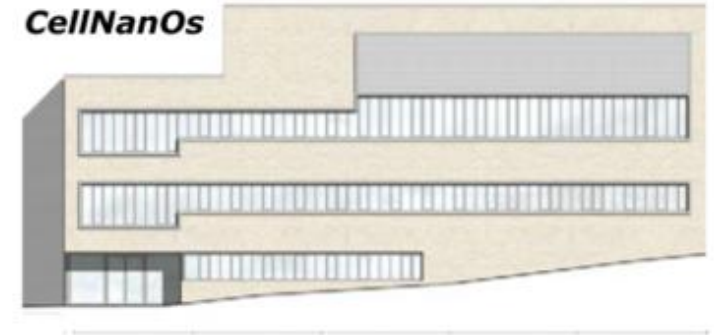
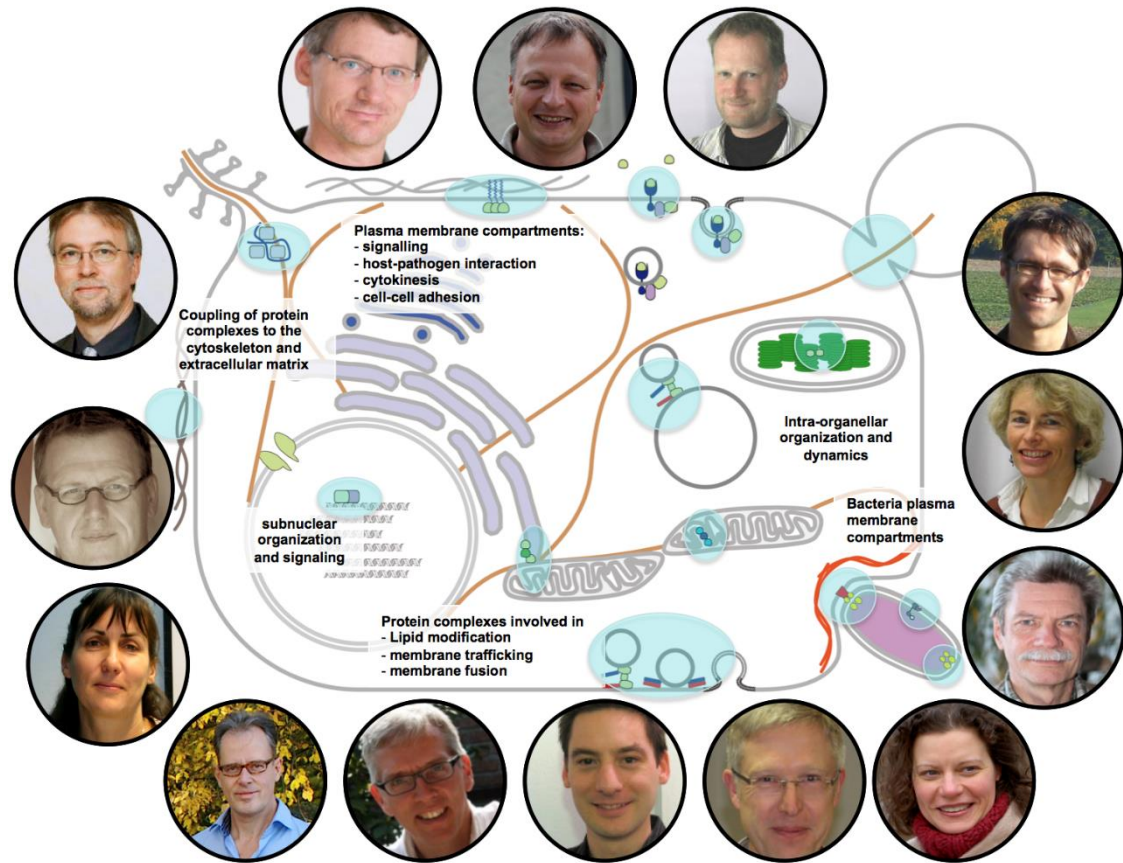
- Composition and Interactions
- Spatiotemporal Organisation and Morphology
- Function, Regulation and Interaction
- Quantitative Description, Models

Synthesis and Bio-functionalization

Visualization and Manipulation

Qualitative and Quantitative Analytics

Image Processing, Simulation and Modeling



Microscope Systems

TEM, SEM, NLO, TIRF, SR, SD, CLSM, DeltaVision

Anticipated Frequency of Usage

- 75-100 users
- Ca. 50-100 accesses daily

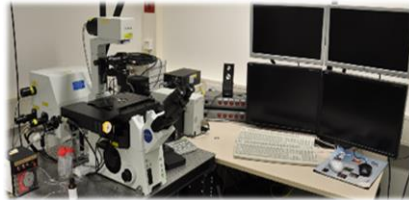
Imaging Metadata



Image file & ome metadata file

CellNanOs.Importer

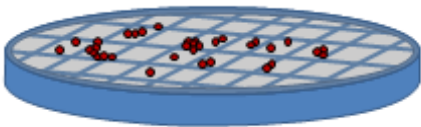
Acquisition



Metadata

- Acquisition description
- Environment

Preparation



Metadata

- Preparation protocol
- Sample description

Import only images that fulfil following conditions

- Ensure certain metadata are available (Required)
- Long term archiving in compliance with DFG requirements

Utilities (Workstation dependent)

- Specification of hardware
- Specification of default values for metadata
- Comfortable metadata editor

CellNanOs.Importer

Import Data

Select data to import and monitor imports.

Select Data to Import Specify MetaData

BP-Olympus-LSM-FluoView [Group: BP Users, Project: Test9B]

- Image001.016
- Image001.016
- Image001.016

Microscope:Olympus LSM FV 1000

Series 1

Image for image Series 1

Objective for image Series 1

Detector for Channel CH3

LightSource for Channel CH3

Imaging Environment

Plane/Stage Positions

CHS1 CHS2 CH3 for Channel CH3

LightPath for Channel CH3

Experiment

Project Name: Test9B

Group: BP Users

Project Partner:

Experimenter Name: Susanne Kunis

Type: Other

Description:

Hardware Specification

```

2<Hardware>
3  <Microscope Name="Olympus LSM FV1000"/>
4<Objectives>
5  <Objective>
6    <Tag Name="Model" Value="UPLSAPO 20x"/>
7    <Tag Name="Manufacturer" Value="Olympus"/>
8    <Tag Name="Nominal Magnification" Value="20"/>
9    <Tag Name="Calibration Magnification" Value=""/>
10   <Tag Name="Lens NA" Value="0.75" />
11   <Tag Name="Immersion" Value="Air" />
12   <Tag Name="Correction" Value=""/>
13   <Tag Name="Working Distance" Value="0.6" Unit="mm" /> <!-- Default unit µm -->
14   <Tag Name="Iris" Value=""/>
15  </Objective>
16<Objective>
17   <Tag Name="Model" Value="LUCPLFLN 40x"/>
18   <Tag Name="Manufacturer" Value="Olympus"/>
19   <Tag Name="Nominal Magnification" Value="40"/>
20   <Tag Name="Calibration Magnification" Value=""/>
  
```

CellNanOs.Importer Specification

```

2<Profile>
3  <Microscope Name="Olympus LSM FV1000"></Microscope>
4<Submodules>
5  <ImageData Position="Pos_A" Width="1" Visible="YES">
6    <Tag Name="Name" Visible="yes"/><!-- No predefinition of value possible -->
7    <Tag Name="Acquisition Time" Visible="yes"/> <!-- No predefinition of value possible -->
8    <Tag Name="Dim X x Y" Visible="yes"/><!-- No predefinition of value possible -->
9    <Tag Name="Pixel Depth" Visible="yes"/><!-- No predefinition of value possible -->
10   <Tag Name="Pixel Size (XY)" Visible="yes"/><!-- No predefinition of value possible -->
11   <Tag Name="Dim Z x T x C" Visible="yes"/><!-- No predefinition of value possible -->
12   <Tag Name="Stage Position (XY)" Visible="yes"/><!-- No predefinition of value possible -->
13   <Tag Name="Step Size" Visible="yes"/><!-- No predefinition of value possible -->
14   <Tag Name="Time Increment" Visible="yes"/><!-- No predefinition of value possible -->
15   <Tag Name="Well #" Visible="yes"/><!-- No predefinition of value possible -->
16  </ImageData>
17
18<ChannelData Position="Pos_E" Width="1" Visible="yes">
19   <Tag Name="Name" Visible="yes"/><!-- No predefinition of value possible -->
  
```

CellNanos.Importer- Modules

Image

Name: Series 1

Acquisition Time: yyyy-mm-dd.HH:mm:ss

Dim X x Y: 1024 1024

Pixel Depth: uint16

Pixel Size (XY) [µm]: 0.069 0.069

Dim Z x T x C: 34 1 3

Step Size:

Time Increment [s]: 1.0

Stage Position (XY):

Well #:

Objective for image Series 1

Model: JPLSAPO 60X O NA:1.35

Manufacturer:

Nominal Magnification: 60,0

Calibration Magnification:

Lens NA: 1.35

Immersion: Other

Correction: Other

Working Distance [µm]: 9999.0

Settings:

Correction Collar:

Medium:

Refraction Index:

Select

Select Objective

ID	Model	Manufactur	Nominal Magn.	Calibration Magn.	Lens NA	Immersion	Correction	Working Distance
	UPLSAPO 20x	Olympus			0.75	Air		
	LUCPLFLN 40x	Olympus			0.6	Air		
	UPLSAPO 60x	Olympus			1.2	Water		
	UPLSAPO 60x	Olympus	60.0		1.35	Oil		0.15mm
	APO 100x	Olympus			1.4	Oil		
Objective:0:0	UPLSAPO 60X O ...		60.0		1.35	Other	Other	9999.0µm

OK Cancel

CellNanOs.Importer- Modules

CHS1 | CHS2 | CH3

Name: **CH3**

Color:

Fluorophore:

Illumination Type: Epifluorescence

Exposure Time:

Excitation Wavelength [nm]: 635.0

Emission Wavelength [nm]: 664.0

Imaging Mode:

Illumination Mode:

Contrast Method:

ND Filter:

Detector **for Channel CH3**

Model:

Manufacturer:

Type: PMT

Zoom:

AmplificationGain:

Settings:

Gain:

Set Voltage [V]:

Set Offset:

Confocal Zoom:

Binning:

Subarray:

LightSource **for Channel CH3**

Laser

Model:

Manufacturer:

Type: Other

Power [mW]:

Medium: Other

Frequency Multiplication:

Tunable:

Pulse:

Pockel Cell:

Repititation Rate [Hz]:

Pump:

Wavelength [nm]: 635.0

Settings:

Set Wavelength [nm]: 635.0

Attenuation:

Select

LightPath **for Channel CH3**

Model	Manufactur	Type
DM405\488\559\635		Dichroic
BA655-755		

Edit

CellNanOs.Importer- Modules

Experiment

Project Name: TestMB

Group: BP Users

Project Partner:

Experimenter Name: Susanne Kunis

Type: Other

Description:

Sample

Raw Material:

Code:

Description:

Preparation:

Prep Date: yyyy-mm-dd hh:mm:ss

Prep Description:

Gridbox Nr:

Observed Sample:

Grid (XY):

Observed Object Type:

Observed Object Nr:

Challenges

- Search over metadata in OMERO.insight
- Presentation of additional metadata specifications