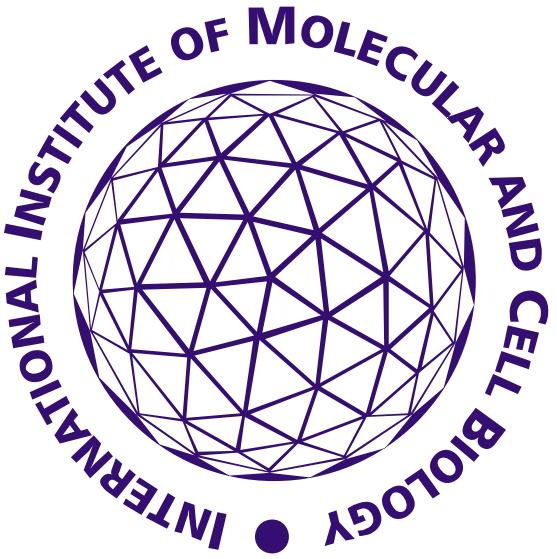
International Institute of Molecular and Cell Biology (IIMCB)

Tomasz Węgierski



Imaging at IIMCB

1. Imaging for crystallography

2. Autoradiography Imaging

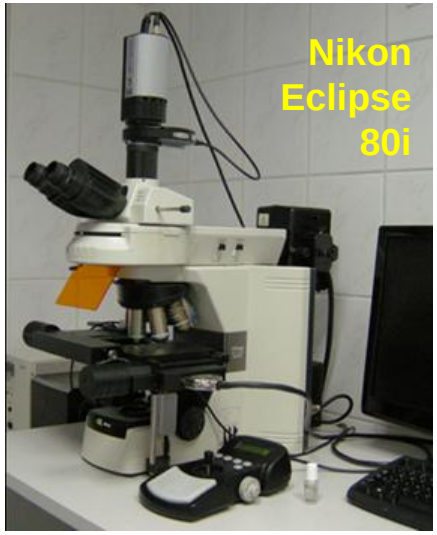
3. Imaging of gels and blots

4. Fluorescence microcopy imaging

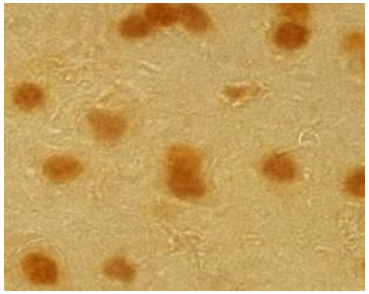
Fluorescence Microcopy Imaging at IIMCB

- Standard technique for 5 groups
  (4 in Warsaw + 1 at MPI Dresden)
- All microscopes are in regular use
- Accessible for scientists from outside free-of-charge if scientifically justified

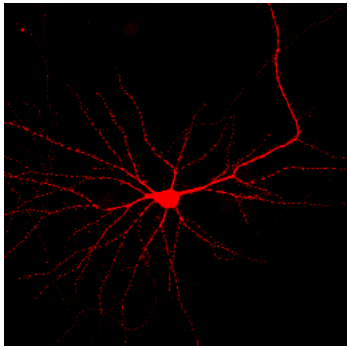
„Standard” Fluorescence Microcopes



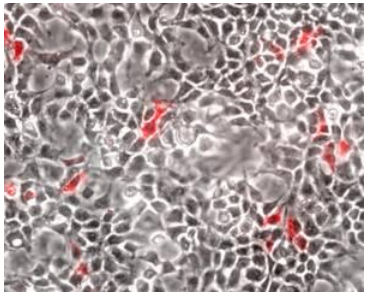
IF and IHC fixed samples



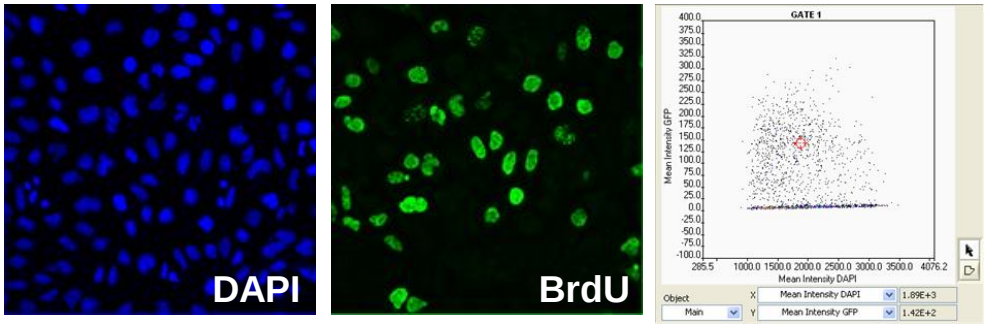
Confocal imaging of fixed samples



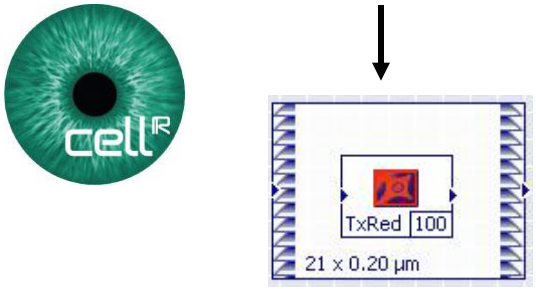
Fluorescence + Phase Contrast, imaging in standard culture dishes



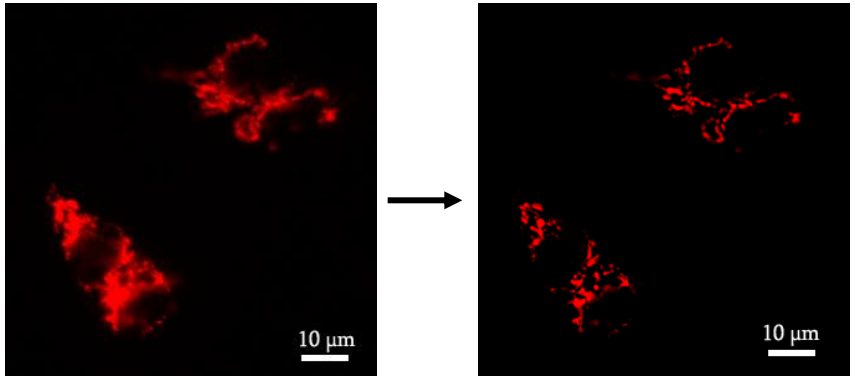
Olympus Cell^{R}/Scan^{R} imaging station



high-content unbiased acquisition
and data analysis



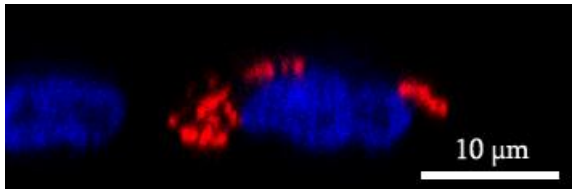
Experiment Manager



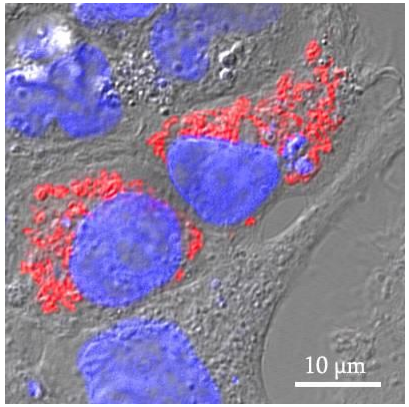
3D deconvolution

Leica TCS AOBS SP2

- Fully motorized
- Live-Cell Imaging & FRAP
- Spectral detection
- Z-Galvo for fast xzy scans

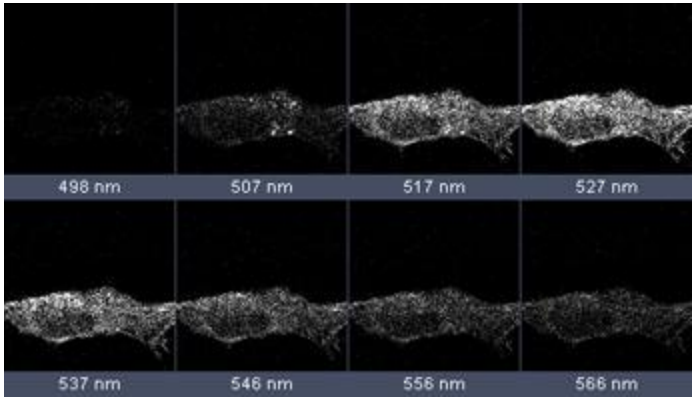


- Fluorescence + DIC

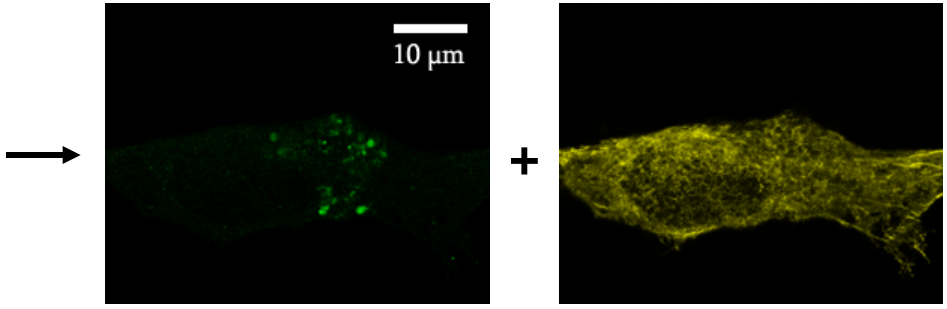


Zeiss LSM710 (NLO)

- Fully motorized
- Autofocus
- Live-Cell Imaging
- 34-channel detector
- Upgrade this year:
  Ti:sapphire for 2P microscopy



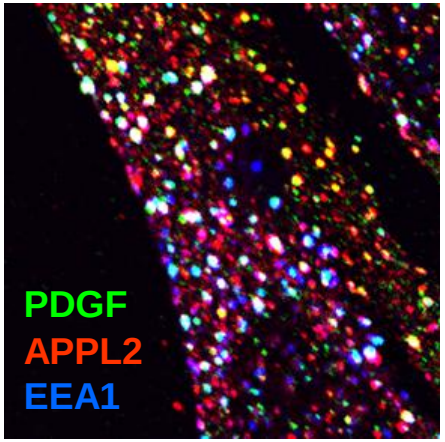
- Linear unmixing (also on-line)



Microscopy-based Research at IIMCB

Laboratory of Cell Biology

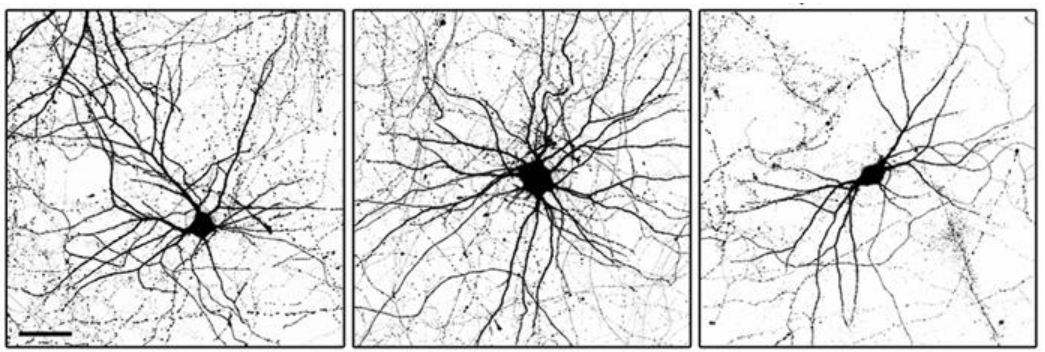
Endocytosis of growth factors
and its impact on signaling



Leica SP2

Laboratory of Molecular and Cellular Neurobiology

The impact of the PI3K-mTOR signaling pathway
and the cytoskeleton
on the dendritic arbor
morphology

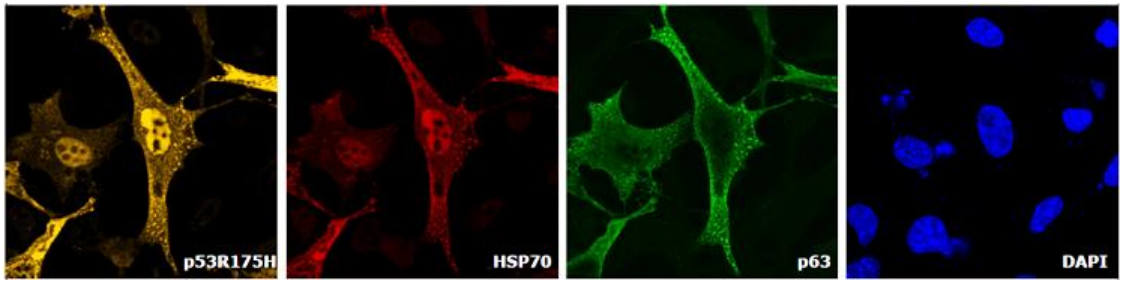


control PI3K PI3K + IQGAP1 k-d

Zeiss LSM5 Exciter

Microscopy-based Research at IIMCB

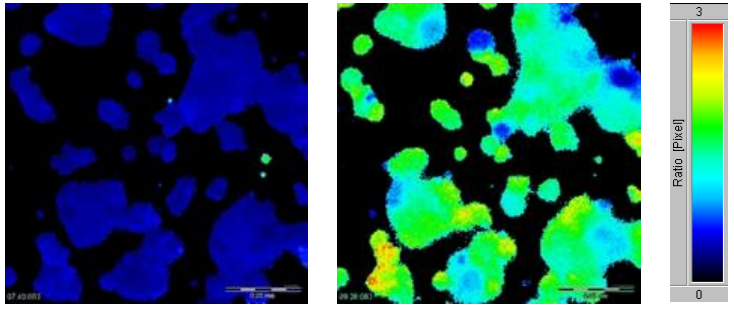
Laboratory of Molecular Biology



Role of Hsp70
in the stabilization
of p53 gain-of-function
mutants

Laboratory of Neurodegeneration

Disturbances of Ca^{2+} homeostasis
in cellular models of Alzheimer disease

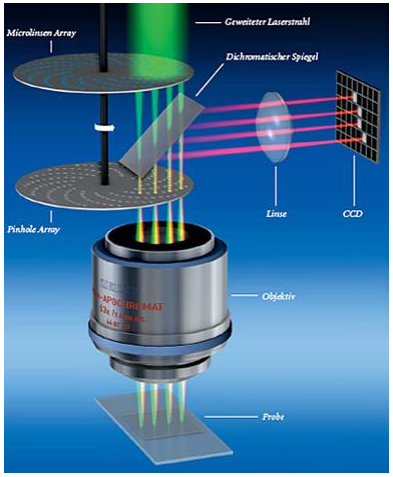


basal $[Ca^{2+}]$ Store-Operated
Ca^{2+} Entry

Fura-2
340/380
Ratio

Olympus
Cell^R

Planned Equipment



Confocal system with spinning-disk

Yokogawa‘s Spinning disk

Summary

- Microscopy imaging is a very frequently used technique at IIMCB,
- Various imaging systems at IIMCB offer possibilities for varied applications,
- We will always try to help with our equipment and expertise other scientists who do not possess appropriate imaging station for their research.