

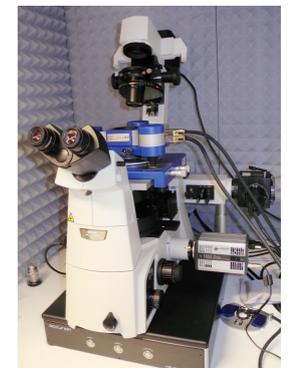
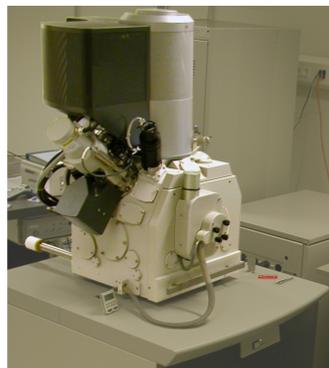
Facilities at your disposal

Thomas Frisk
Researcher &
1st Research Engineer





Albanova Nanofabrication Lab



Contact:
Anders Liljeborg
andlil@kth.se



- EBL: Raith 150 w. FBMS
- SEM/FIB FEI Nova200
- AJA Orion
- Plasmalab 100
- AFM Bruker Icon
- AFM Bruker FastScan
- AFM JPK Bio/cell



Electrum Laboratory



Silicon Technology

- Silicon - CMOS
- Silicon - Microsystems

Compound Semiconductors

- InP- Opto / electronics
- GaAs - Opto / electronics
- SiC - Electronics

Post process

- Dicing
- Bonding

Characterization

- Materials
- Devices

Approximately 130 process machines!



Contact:
Nils Nordell
nordell@kth.se



Albanova Laser Laboratory

Partners: Laser Physics group KTH and KiKO Stockholm University
Part of LaserLab Stockholm

Infrastructure

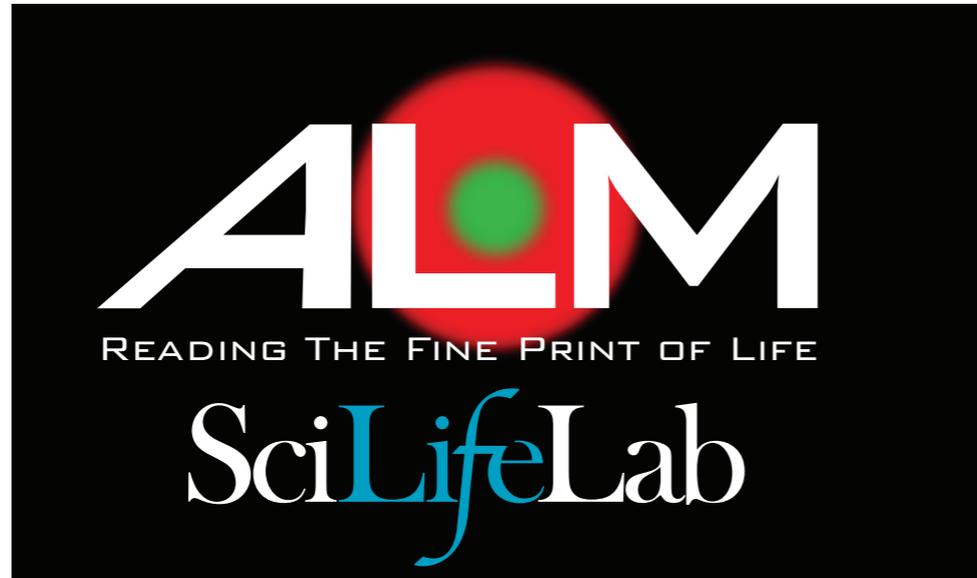
- Amplified fs/ps laser system (800 nm) used for high energy nonlinear optics including THz spectroscopy
- High energy ns system (1064 nm, 10 ns, 100 Hz) – pump for tailored mid IR generation
- 100 W cw, tunable, narrow linewidth near IR source (1064 nm)
- Mode-locked and amplified Yb: KGW laser (20 W, 1060 nm, 3 ps, 200 MHz)
- Various visible, IR and mid IR solid-state laser from 213 nm to 3.4 μm
- CO₂ laser systems for laser machining and 3D printing
- 266 nm and 213 nm lasers for lithography

Capacity

- Tailormade lasers
- Supercontinuum generation
- Set-up for fiber and waveguide characterisation

Contact:
Fredrik Laurell
Valdas Pasiskevicius



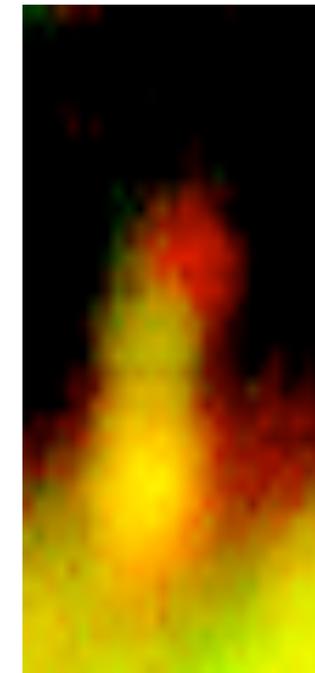


Advanced Light Microscopy

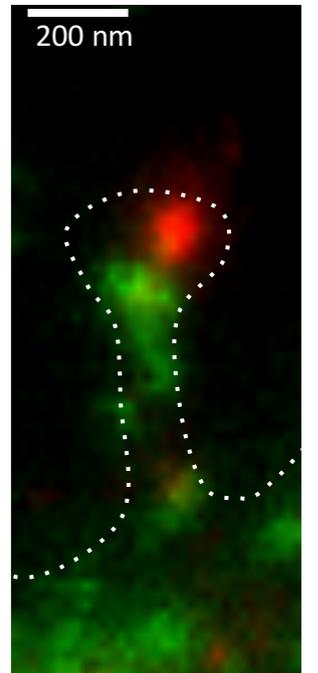
National resource for super-resolution microscopy

- Access to unique instruments
- Application expert support
- Development of next-generation BioImaging

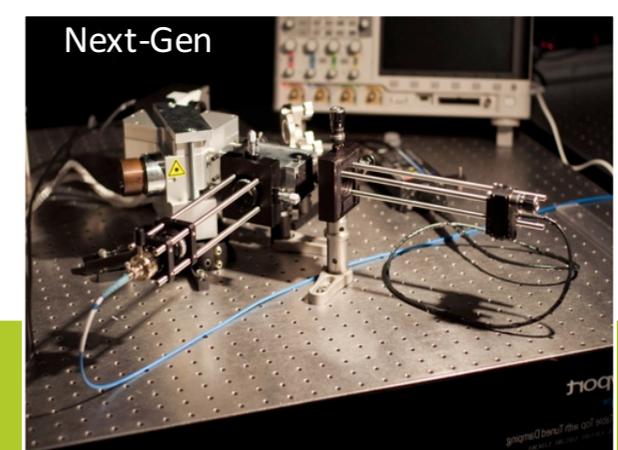
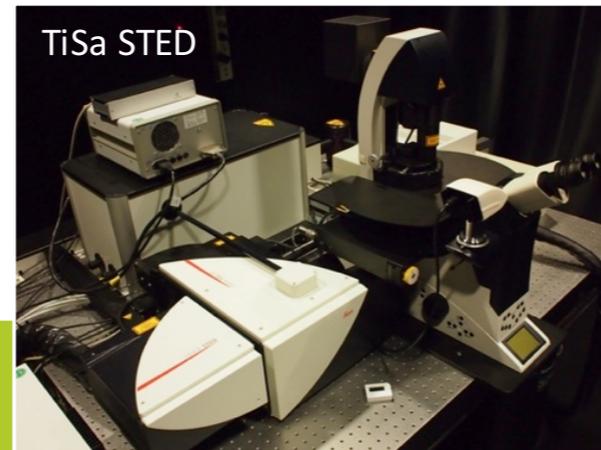
Confocal



Super-resolution



Dendritic spine from rat striatum
(red - Dopamine 1 receptor; green - Na,K-ATPase)

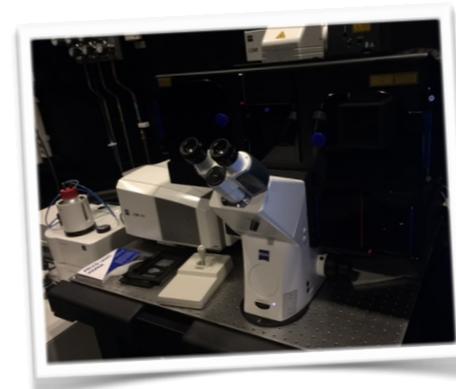




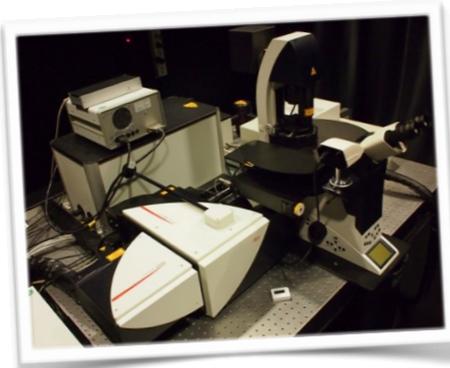
ALM Infrastructure



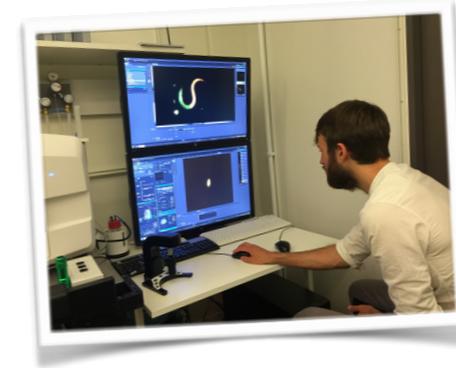
STED-3X
3-color, 3D
xy: 30-50 nm
z: 100 nm



FCS/RICS
Confocal platform



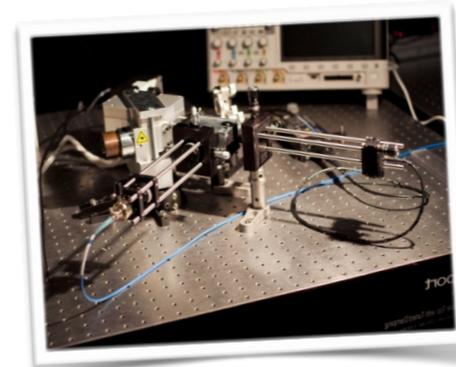
STED, TiSa
2-color
xy: 30-50 nm



SPIM
Light-sheet microscopy



PALM/dSTORM
2-color, 3D
xy: 20-40 nm
z: 100 nm
SIM
3-4 color
xy: 100 nm
z: 340 nm



Development
easySTED
RESOLFT
...



120 m² prep. Lab
cell culture, BSL-2
90 m² microscopy lab

Contact:
Hjalmar Brismar
brismar@kth.se

...
essing/
s
MERO, Portal
RA, ARIVIS,



We make the invisible visible

MAX IV

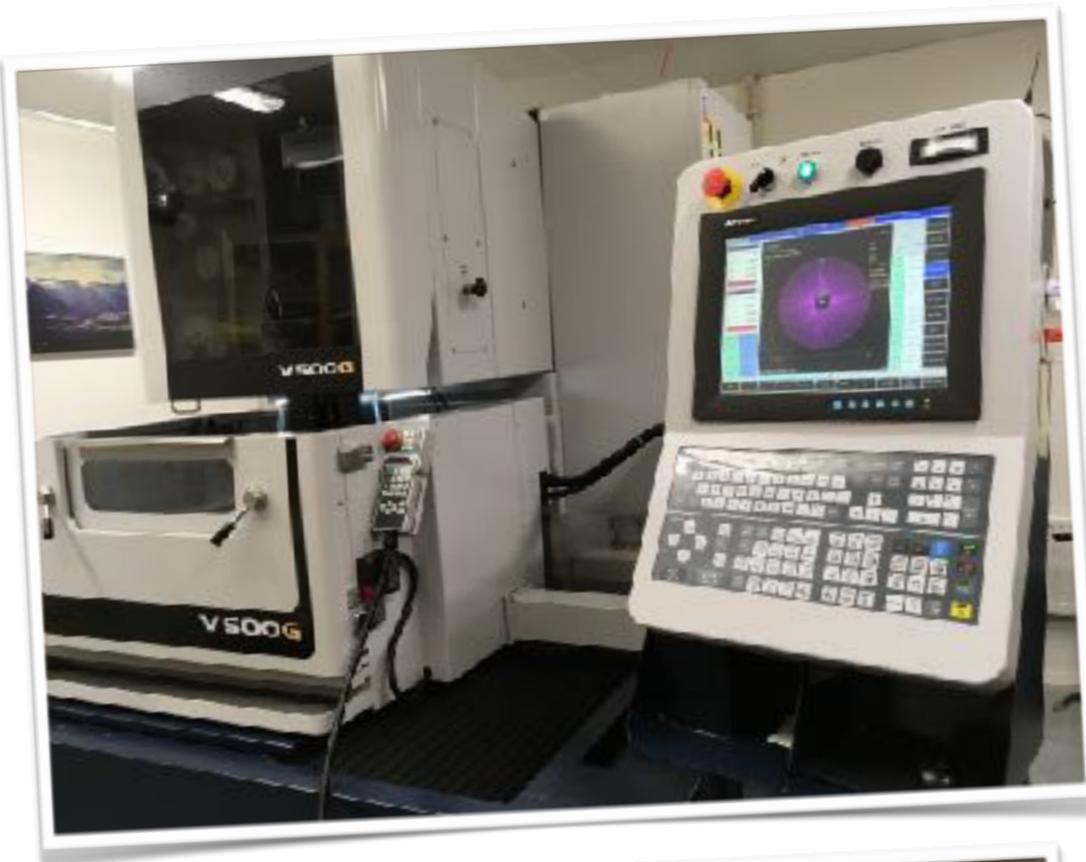


Contact:
Ulrich Vogt
uvogt@kth.se

"the brightest X-ray source in the world"



Workshop @ AlbaNova 1st floor



Contact: Rolf Helg
rhelg@kth.se
070-190 01 71



Electrum Lab



MC2 NFL



Ångström MSL



Lund Nano Lab

Contact:
Nils Nordell
nordell@kth.se

A few words on “best laboratory practices” or “SOP’s”



- When you don't know what you're doing, do it neatly.
- Experiments must be done the same way each time.
- First draw your conclusions.
- Experience is crucial.
- A record of data is essential.
- To study a subject thoroughly, you must think before you start.
- To do a lab really well, have your report done well in advance.
- If you can't get the answer in the usual manner, start at the answer and derive the question.
- If that doesn't work, try a different approach.
- In case of doubt, ask for help.
- Do not believe everything you hear.
- Team work is essential.
- All unmarked beakers contain fast-acting, extremely toxic poisons.
- Any delicate and expensive piece of glassware or equipment will break before any use can be made of it. (Law of Spontaneous Fission)

Contact:

Thomas Frisk
tfrisk@kth.se



Contact:

Björn Hessmo
hessmo@kth.se

