



Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG

Open Day of Technology Platforms

Technology Platform Light Microscopy (TPLM)

31.01.2024 **Roland Thünauer**



Bild: Charlotte Ruhmlieb

TPLM platform concept

Technology Platform Light Microscopy (TPLM)

Advanced Light and Fluorescence Microscopy (ALFM) facility

Location: CSSB Hamburg (central facility)

Equipment:
14 microscopes

Under construction: Light microscopy facility at FB BIO

Location: IPM and IZS (decentral facility)

Equipment:
10 microscopes

From 2025: Light microscopy facility at FB CHE and PHY

Location: Bahrenfeld, MLK (decentral facility)

Equipment:
10 microscopes

All microscopy facilities offer complementary equipment and technologies

Mission of the TPLM

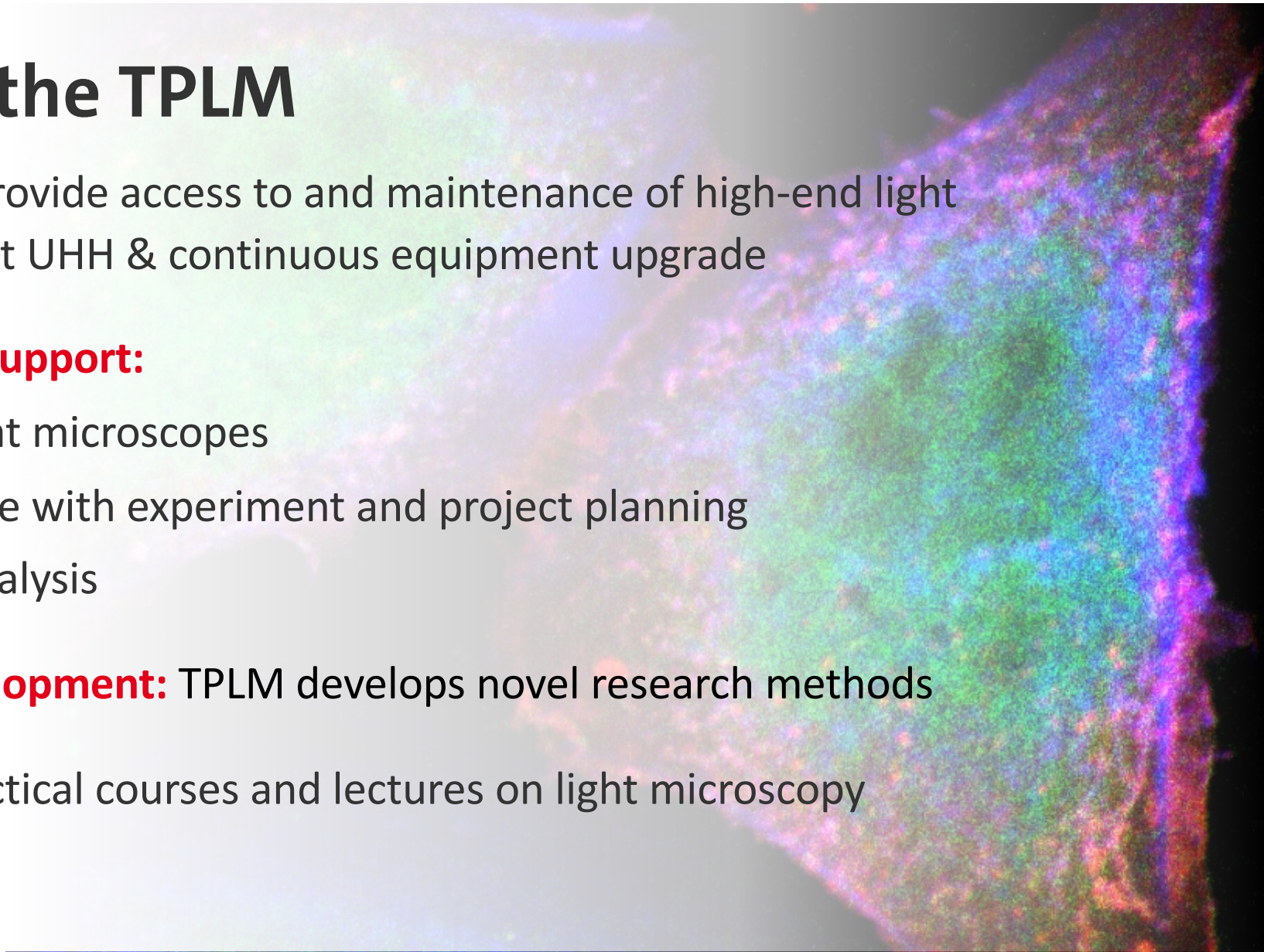
Equipment: Provide access to and maintenance of high-end light microscopes at UHH & continuous equipment upgrade

Training and support:

- Training at microscopes
- Assistance with experiment and project planning
- Image analysis

Method development: TPLM develops novel research methods

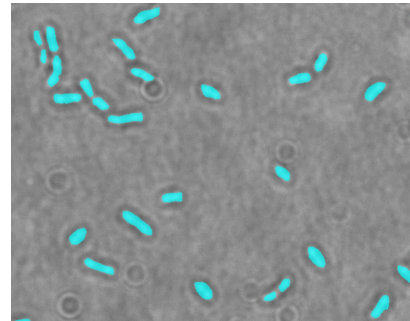
Teaching: Practical courses and lectures on light microscopy



Profile ALFM facility @ CSSB

Equipment

- **14 light microscopes** at BSL2
- Soon also microscopes at BSL3
- Image processing server
- Cell culture resources



AI-segmented bacteria

Technology focus

- High- and super-resolution imaging
- Correlative light- and electron cryo-

microscopy

2 Staff members

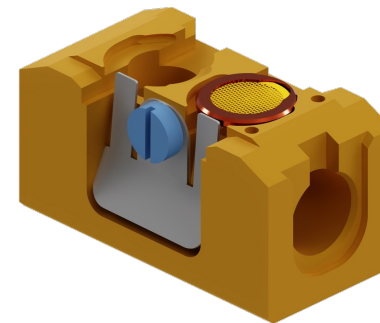


Larissa Schatz

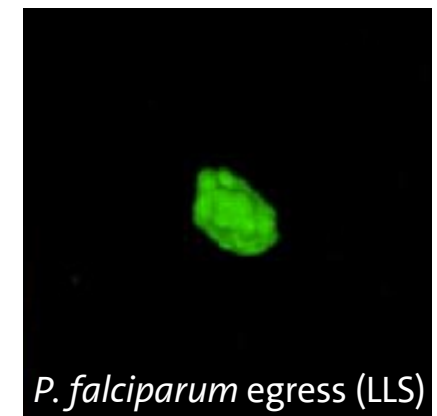
Tim Laugks

Available microscopes:

Leica SR GSD 3D
Leica cryoCLEM wide field
Leica cryoCLEM confocal Stellaris 8
Leica DMI8 #1 + Primo Alveole micropatterning unit
Leica DMI8 #2
3x Leica DM6 B
Leica SP8 confocal.+ FALCON unit
Nikon spinning disc & SIM + FRAP unit
Nikon spinning disc incl. SoRa & TIRF
Zeiss Airyscan
Zeiss Elyra
Zeiss Lattice Light Sheet (LLS) 7



cryoCLEM cartridge



P. falciparum egress (LLS)

Profile light microscopy facility @ FB BIO

Equipment

- **10 light microscopes**, located at research groups

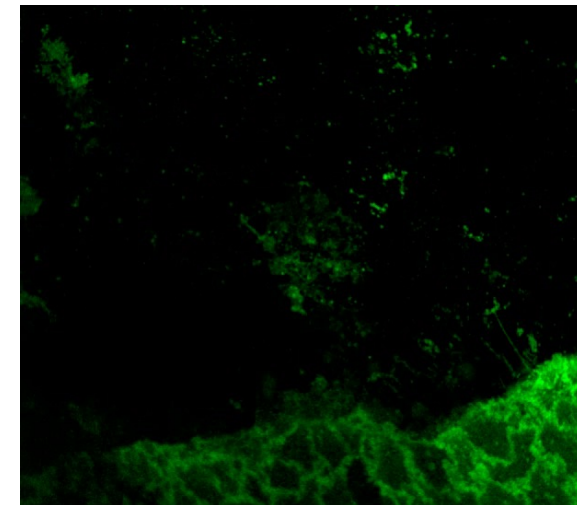
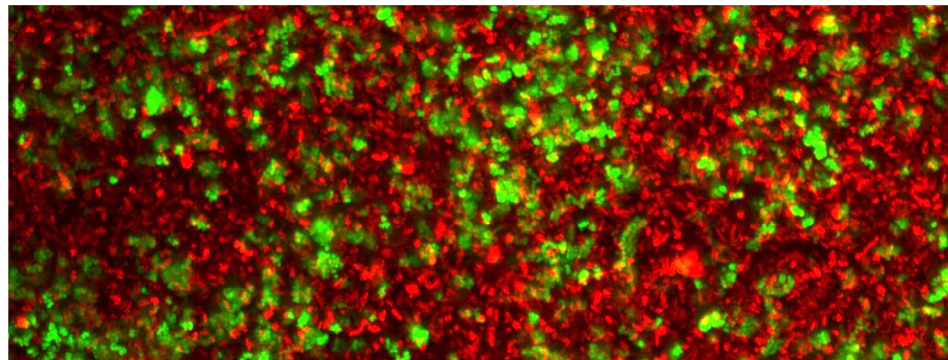
Technology focus

- Live imaging of 'large samples' (plant tissue, *C. elegans*, biofilms,...)
- Optical clearing & expansion microscopy

Soon: 1 staff member

Available microscopes:

Nikon upright confocal 1	AG Lohr
Nikon upright confocal 2	AG Lohr
Zeiss upright Airyscan LSM880	AG Schnittger
Zeiss upright LSM900	AG Schnittger
Zeiss inverted Airyscan LSM880	AG Streit
Zeiss laser tweezer microscope	AG Streit
Leica inverted SP8 confocal	AG Hoth
Visitron inverted SD microscope	AG Reumann
Confocal microscope + FLIM (from 2025)	AG Tursun



Services offered by TPLM

TPLM provides **'adaptive service'**:

- Training at microscopes
- Accompanying project support: Assistance with project and experiment planning & troubleshooting
- Project collaboration

Image analysis support

Collaborations to develop novel methods

Assistance with grant writing: e.g. estimation of required microscope hours



...in case you are a group leader and have a high-end light microscope in your lab:

Please contact us!

Your microscope can and should be integrated into the TPLM:

- Booking calendar
- Maintenance can be taken over by TPLM
- TPLM can support with user training
- Research group retains guaranteed usage quota
- Microscope is made accessible to other users from UHH -> potential collaborations

How to access microscopes at the TPLM? (1)

1. Contact me:

Email: roland.thuenauer@uni-hamburg.de

Phone: 040 8998 87730

...or come to my office hours:

Wed. 10:00-12:00 @ CSSB, room EG.119

Fri. 10:00-12:00 @ IPM, room 1.307

How to access microscopes at the TPLM? (2)

2. **Personal meeting** to discuss your needs & how we can best help you

3. **Mandatory trainings:**

- Microscope usage training(s)
- (Bio)safety training (e.g. for BSL2 work)

4. Microscopes are booked *via* **PPMS booking calendar**:
<https://ppms.eu/cssb-hamburg/?ALFM>

Bioimaging Methods Seminar Series

**Mondays
at 14:00**

Subscribe to
mailing list :
<https://lists.cssb-hamburg.de/sympa/subscribe/bioimaging>



Speakers:

October 23, 2023

Jose Rodriguez (UCLA)
Eike Schulz (UKE)

November 6, 2023

Pernille Rose Jensen (DTU)

November 20, 2023

Arp Schnittger (UHH)

November 27, 2023

Xingyi Cheng (Institut Marie-Curie)

December 4, 2023

Victor Puelles (UKE)

December 11, 2023

Beata Turonova (EMBL)

December 18, 2023

Irene Fernandez-Cuesta (UHH)

January 8, 2024

Mohammad Vakili (DESY)

January 15, 2024

Klemens Rottner (HZI, TUB)

January 22, 2024

Clement Blanchet (EMBL)

January 29, 2024

Jakob Piehler (Uni Osnabrück)

Bioimaging Methods Seminar Series



...organized
together with
cryoEM platform

...broadcasted *via*
Zoom

**CSSB
lecture hall
Notkestr. 85,
building 15**

Contact



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