

SUPER-RESOLUTION 2021



<https://www.img.cas.cz/events/courses/>

December 7-9, 2021
Institute of Molecular Genetics of
the Czech Academy of Sciences
Prague | Czech Republic



MINISTRY OF EDUCATION,
YOUTH AND SPORTS

The course is organized by the
**Institute of Molecular Genetics of
the Czech Academy of Sciences** in
the framework of the
Czech-Bioimaging research
infrastructure supported by **The
Ministry of Education, Youth and
Sports.**
(LM2015062)



Authorized Distributor



Seeing beyond



PROGRAM

Day 1 TUESDAY, Dec. 7, 2021

09:00 Introductory word, practical information & course organization. *Ivan Novotný*

09:30 Resolution in light microscopy; high-res. confocal microscope. *Ivan Novotný*

coffee break

10:30 Principles of microscopy image deconvolution. *Martin Čapek*

11:15 High resolution computational methods. *Michaela Efenberková*

lunch 12:00

13:00 Lightning *Pragolab/Leica*

13:30 SRRF Stream *OptiXs/Andor*

14:00 **Practical sessions** (3 parallel groups):
HiRes Confocal(group1) | Lightning(group2) | SRRF(group3)

coffee break

16:00 **Practical sessions** (3 parallel groups):
HiRes Confocal(group2) | Lightning(group3) | SRRF(group1)

coffee break

18:00 **Practical sessions** (3 parallel groups):
HiRes Confocal(group3) | Lightning(group1) | SRRF(group2)

20:00 WrapUp, discussion ... and sandwich dinner

Day 2 WEDNESDAY, Dec. 8, 2021

09:00 2x scientific lecture. *TBA*

10:00 Structured illumination microscopy - SIM. *Martin Čapek*

coffee break

10:45 SIM and confocal microscope - similarities and differences. *Ivan Novotný*

11:15 Lattice SIM *ZEISS - Pavel Krist*

11:45 Advanced stable Fluoro-Dyes for SR microscopy *Sven Biolabs*

lunch 12:15

13:00 **Practical sessions** (3 parallel groups):
SIM(group1) | LatticeSIM(group2) | SIM reconstruction(group3)

coffee break

15:00 **Practical sessions** (3 parallel groups):
SIM(group2) | LatticeSIM(group3) | SIM reconstruction(group1)

coffee break

17:00 **Practical sessions** (3 parallel groups):
SIM(group3) | LatticeSIM(group1) | SIM reconstruction(group2)

20:00 Super-resolved SOCIAL EVENT

Day 3 THURSDAY, Dec. 9, 2021

09:00 2x short scientific lecture. *TBA*

09:30 Stimulated emission depletion - STED microscopy. *Ivan Novotný*

coffee break

10:30 Single molecule localization microscopy - SMLM. *Marie Olšinová*

11:30 TBA, (Solutions for localization microscopy) *NIKON*

lunch 12:00

13:00 **Practical sessions** (2 parallel groups):
STED(group1) | dSTORM/3D PALM(group2)

coffee break

15:30 **Practical sessions** (2 parallel groups):
STED(group1) | dSTORM/3D PALM(group2)

coffee break

18:00 TBA, (Consumable equipment for advanced microscopy) *KRD*

18:30 Take-home message from SR light microscopy *Participants*

19:00 Conclusion & Farewell dinner

THEORY

ON - PLACE

THEORY

ON - PLACE

THEORY

ON - PLACE