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**UNIVERSITÄT
BERN**

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| MIC training: | Fundamentals of confocal microscopy |
| Date: | September 20-22, 2022. |
| Time: | 9 am – 5 pm. |
| Location: | Institute of Cell Biology, room C159, Baltzerstr. 4, 3012 Bern. |
| Trainers: | Dr. Christine Strasser, Zeiss, Feldbach (CH); Dr. Paula Sampaio, i3S, Porto (PT); Dr. Michael Jaeger, IAP, Dr. Tin Manh Ho DBMR, Prof. Dr. Thomas Nevian, Physiology; Dr. Mykhailo Vladymyrov, TKI, Dr. Yury Belyaev, MIC, Dr. Guillaume Witz. ScilTS-MIC, University of Bern (CH). |
| Organizer: | Dr. Y. Belyaev, MIC of the University of Bern (www.mic.unibe.ch). Supported by the PhD specialization Cutting Edge Microscopy. |
| Number of participants: | Maximum 25 (lectures), 15 (hands-on). |
| Registration: | until September 13, 2022 here . |
| Target audience: | PhD students, postdocs, and everyone who needs confocal microscopy in their research. Participants of Cutting Edge Microscopy specialization program are particularly invited. |
| Credits: | Certificate of attendance. On request, PhD students of the Cutting Edge Microscopy program can obtain 1.5 ECTS upon presenting the learning outcome in the context of his/her project at a separate meeting. |
| Content: | Basics of confocal, spinning disk and 2P microscopy. Lasers. Live cell imaging. Basics of image visualisation and processing. Registration, colocalization, 3D stitching. Deconvolution. |
| Learning outcome: | Participants will learn how to set up and optimally operate confocal microscope and visualize and quantify confocal images. |
| Schedule: | See next page. |

Fundamentals of confocal microscopy

| Time | Day 1 Tuesday, 20.09.22 | Day 2 Wednesday, 21.09.21 | Day 2 Thursday, 22.09.21 |
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| 9:00-12:00 | <p>Lectures</p> <p>Basics of confocal microscopy C. Strasser, Zeiss</p> <p>Lasers M. Jaeger, IAP</p> | <p>Lectures</p> <p>Spinning disk Y. Belyaev, MIC</p> <p>2P microscopy basics T. Nevian, Physiology</p> <p>Live cell imaging P. Sampaio, i3S</p> | <p>Hands-on</p> <p>Deconvolution microscopy Y. Belyaev, MIC</p> <p>Deconvolution of confocal images with HRM Y. Belyaev, MIC</p> <p>FIJI basic functionality G. Witz MIC-SciTS</p> |
| 12:00-13:30 | Lunch | Lunch | Lunch |
| 13:30-17:00 | <p>Hands-on</p> <p>Setting up microscope for confocal imaging</p> <p>T. Ho, DBMR C. Strasser, Zeiss Y. Belyaev, MIC</p> | <p>Hands-on</p> <p>Live cell imaging with confocal P. Sampaio, i3S</p> <p>2P microscopy M. Vladymyrov, TKI</p> <p>Spinning disk Y. Belyaev, MIC</p> | <p>Hands-on</p> <p>Registration</p> <p>Colocalization</p> <p>3D stitching</p> <p>(Using open-source software) G. Witz, MIC-SciTS</p> |