

Expanding the ZEISS Microscopy Platform: Automation and Image Analysis Solutions based on OAD and APEER

The goal of this 4-day workshop is to teach and train participants how to employ the ZEISS software ecosystem for their own projects in image processing, analysis and microscope automation. We will discuss the latest developments in image analysis and machine learning, including the novel free image-processing platform APEER, which enables users to exchange image-processing modules and assemble them into powerful processing workflows. You will learn how to use APEER in the cloud and how to set up a local APEER solution based on the ACQUIFER HIVE system.

The workshop will include lectures, discussions and extensive hands-on sessions using the microscope infrastructure of the Life Imaging Center (LIC). Participants are invited to give a talk about their workshop-related projects, research (requirements) and custom solutions. Participants are also encouraged to bring their own samples or experimental workflows, discuss them with the experts and derive custom solutions for their individual microscopy and image analysis challenges. Please contact us in advance about the prerequisites.

Basic knowledge in light microscopy and scripting is required.

November 4th – 7th 2019

Life Imaging Center (LIC), Center for Biological Systems Analysis (ZBSA)
Albert-Ludwigs University Freiburg
Habsburgerstr. 49, 79104 Freiburg im Breisgau

Organization: Microscopy and Image Analysis Platform (MIAP), University of Freiburg

Teachers: Sebastian Rhode (Carl Zeiss Microscopy GmbH),
Marion Lang (Carl Zeiss Microscopy GmbH),
Bettina Göppert (ACQUIFER), Lord Hess (ACQUIFER)

Day 1: November 4th, 09:00 – 17:00	
09:00 – 10:30	Welcome & Workshop Introduction <i>Roland Nitschke (Life Imaging Center (LIC), University of Freiburg)</i> <i>Sebastian Rhode (Carl Zeiss Microscopy GmbH)</i>
10:30 – 10:45	COFFEE BREAK
10:45 – 12:00	Latest Developments in Image Analysis and Machine Learning inside the ZEISS Ecosystem <i>Marion Lang & Sebastian Rhode (Carl Zeiss Microscopy GmbH)</i>
12:00 – 13:00	LUNCH BREAK
13:00 – 14:00	APEER – Open and Scalable Image and Data Processing Platform to Accelerate your Microscopy Workflows <i>Sebastian Rhode & N.N. (Carl Zeiss Microscopy GmbH)</i>
14:00 – 15:00	Hands-on: Try out the Newest Image Analysis Tools (Part 1)
15:00 – 15:15	COFFEE BREAK
15:15 – 17:00	Hands-on: Try out the Newest Image Analysis Tools (Part 2)

Day 2: November 5th, 09:00 – 17:00	
09:00 – 10:30	Guided Acquisition – The smart Way to Automate and Run your Experiments <i>Marion Lang (Carl Zeiss Microscopy GmbH)</i>
10:30 – 10:45	COFFEE BREAK
10:45 – 11:30	Handling Big Image Data in Microscopy <i>Bettina Göppert (ACQUIFER)</i>
11:30 – 12:15	The new LSM 9 Series in ZEN Blue <i>Sebastian Rhode (Carl Zeiss Microscopy GmbH)</i>
12:15 – 13:15	LUNCH BREAK
13:15 – 15:00	Hands-on: Using Guided Acquisition (Part 1)
15:00 – 15:15	COFFEE BREAK
15:15 – 17:00	Hands-on: Using Guided Acquisition (Part 2)

Day 3: November 6th, 09:00 – 17:00	
09:00 – 10:30	Interactive Tutorial – Create your own APEER Module (Part 1)
10:30 – 10:45	COFFEE BREAK
10:45 – 12:00	Interactive Tutorial – Create your own APEER Module (Part 2)
12:00 – 13:00	LUNCH BREAK
13:00 – 15:00	Setup your own local APEER Client using the ACQUIFER HIVE Solution <i>Sebastian Rhode (Carl Zeiss Microscopy GmbH)</i> <i>Bettina Göppert (ACQUIFER)</i>
15:00 – 15:15	COFFEE BREAK
15:15 – 17:00	Call 4 Help – Present your Image Analysis or Automation Challenge

Day 4: November 7th, 09:00 – 15:00	
09:00 – 10:30	Free Talk Slot <i>(Invited Guests or Selected Talks from Participants)</i>
10:30 – 10:45	COFFEE BREAK
10:45 – 12:00	Reading CZI and other Image Files using 3rd Party Software Packages <i>Sebastian Rhode (Carl Zeiss Microscopy GmbH)</i>
12:00 – 13:00	LUNCH BREAK
13:00 – 14:00	Hands-on: Read your own Image in ZEN, Python or Fiji
14:00 – 15:00	Feedback, Open Q&A, Discussion, Closing Workshop

For more information, please contact MIAP: <https://www.miap.eu> info@miap.eu

