

# Image Analysis Automation with ImageJ Macro Scripting

## Trainer



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Jan Brocher received his PhD in molecular biology from the University of Würzburg, Germany, and did research at the National University of Singapore as well as the University of Heidelberg. He founded BioVoxel in 2012 and has since then offered widely accepted individualized workshops in image processing, and analysis, process automation, and illustration for undergraduates, PhD candidates and postdocs in the life sciences worldwide.

## Objective

Participants will learn to automate file handling, image processing and analysis tasks using the ImageJ Macro Language, a simple to learn and flexible small scripting language that allows the automatic interaction with all ImageJ functionalities. Mastering the few concepts of this course will enable you to repeat any image analysis task in a reproducible manner and it will minimize user bias and errors in image analyses. Furthermore, it will save you a huge amount of time by avoiding tedious clicking tasks, so you can concentrate on the important parts of data collection and interpretation.

This course will only explain the automation, NOT specific image analysis tasks. Those will be covered in the Basic Microscopic Image Processing and Analysis workshop (see below).

## Description

- Basic ImageJ macro recording of a general image analysis pipeline
- Basics about variables and macro command and how to use them
- Looping over image files, table data, ROIs
- Interaction between user and macro
- Automatic customized measurements
- Creating and interacting with customized tables
- Automatically creating folders and flexibly saving all data as needed
- Testing conditions and creating automatic macro decisions
- Creating reusable functions
- Creating different customized dialogs for user input
- Making your own ImageJ menu with your own macros
- Optional: tips for individual solutions

## Methodology

During the course we will use exclusively Fiji (ImageJ bundle) in a customized setup. Prior experience with Fiji as shown in the basic course is assumed (see conditions below).

## Conditions

- No programming knowledge necessary. We will start with the most basic.
- Prior participation in the BioVoxel Workshop “BASIC MICROSCOPIC IMAGE PROCESSING AND ANALYSIS” is strongly recommended to be able to follow the complete content of this workshop.
- Participation without prior basic course attendance is possible but you need a sound knowledge in handling Fiji / ImageJ and to have experience in image segmentation (e.g. image pre-processing, thresholding, basic analysis tools).
- No basics of image analysis will be explained in-depth.

## Organizational Information

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|-------------------|---|
| Language / Format | English / Online  |
| Target group      | Doctoral Candidates at all stages and Postdocs (R2/R3) from Natural and Life Sciences |
| Date              | Monday-Tuesday, 15-16 June 2026, 9:00 – 15:00   |
| Registration      | <a href="#">Click here for registration</a>   |