

# From Images to Knowledge with ImageJ & Friends

virtual conference

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## Introduction to ImgLib2 & BigDataViewer

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**Session 1:** 2020-11-30 23:00 UTC – 2020-12-01 03:00 UTC

**Session 2:** 2020-12-01 14:00 UTC – 2020-12-01 18:00 UTC

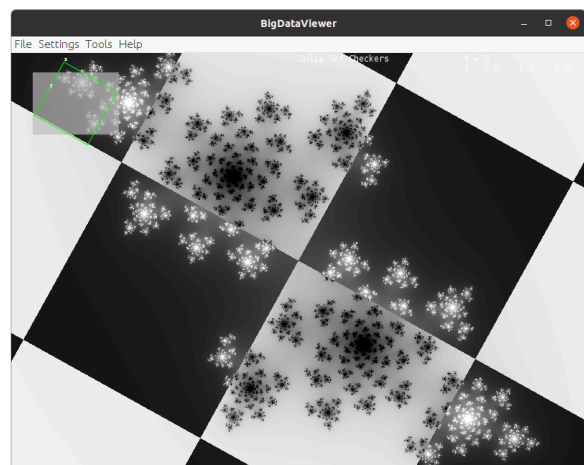
# Introduction to ImgLib2 & BigDataViewer

**Stephan Saalfeld** is a group leader at HHMI Janelia. He is one of the founding authors of ImgLib2, BigDataViewer, and Paintera, as well as the creator of the N5 API and format. His lab develops image analysis methods for large datasets, particularly 3D electron microscopy and 3D light microscopy, and actively contributes to various open source projects.

**Stephan Preibisch** is team leader for computational method development at HHMI Janelia and group leader at the Berlin Institute for Medical Systems Biology. He is one of the founding authors of ImgLib2 and creator of the BigStitcher software. He and his team are focused on developing algorithms and user-friendly software for the reconstruction of large lightsheet and electron microscopy data.

## Summary

ImgLib2 is a generic, extensible Java library that can process arbitrarily large, n-dimensional datasets of any type. In this tutorial, we introduce the concepts of developing code in ImgLib2 using simple examples that cover important aspects of image analysis and will highlight the advantages over classical code developed for specific use cases only. For visualization we will use ImageJ/Fiji and will additionally introduce simple programmatic use of BigDataViewer using BDV-vistools.



This tutorial is useful for image analysts who for example want to write code that runs on all of the heterogeneous microscopy datasets produced in modern developmental biology. ImgLib2 code can be easily distributed as Fiji plugin or standalone code and thereby enables developers to distribute and run the code easily.

## Requirements

This tutorial addresses programmers who have some experience with the Java programming language, but have not yet started to develop code using ImgLib2. You must have a JDK 8 or newer, Maven, and Git installed. You must be able to use your favorite IDE, e.g. Eclipse or IntelliJ. If you are using Windows, you will be on your own to get things to work, we will be able to assist with MacOS and Ubuntu Linux. Feel free to bring your own example images and problems.