Fiji Optical Separator Single Core



Overview

For this reason, the conventional single-core separation holds the optical fiber tape in a substantially straight state in the longitudinal direction, and inserts a sharp blade of a...

Key Takeaways

Fiji can separate optical microscopy images into single channels or cores using macros and plugins for automated splitting and analysis. Fiji, a distribution of ImageJ, provides a "batteries-included" platform for scientific image analysis, including tools for splitting multi-channel images into single channels and performing quantitative analysis. This functionality is often referred to as an "optical separator" in microscopy workflows, allowing researchers to isolate individual fluorescence channels or image cores for detailed study.

Key Tools and Macros1. Image Splitting and Particle Analysis Macro A dedicated Fiji macro automates the process of splitting optical or SEM images into smaller segments, enhancing visibility, and performing quantitative particle analysis. Key features include: Automated Splitting: Divides images into equal-sized tiles or segments.

Image Enhancement: Applies contrast adjustment and Gaussian blur for clearer feature detection. Quantitative Analysis: Measures particle size, area, and volume fraction for each segment, storing results for further analysis. Compatibility: Works with ImageJ version 1.

54f or later. 2.

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Single-

Channel TIF

F Extraction Macro Another macro allows users to process multi-channel microscopy files (e.g.,.czi or.lsm), perform maximum intensity projections, and save each channel as a separate TIFF file. Features include: Automatic renaming of output files for easy sorting. Batch processing of multiple images in a folder.

Integration with Bio-Formats for diverse microscopy file types. Optional z-projection and channel splitting for downstream analysis.

Workflow Overview

Load Images: Open multi-channel microscopy images in Fiji. Run Macro: Use the splitting macro to separate channels or cores. Enhance and Analyze: Apply image enhancement and perform particle or foci analysis.

Export Data: Save single-channel images and quantitative results for further processing or visualization.

Additional Plugins

Fiji also supports plugins like Foci Analyzer for 2D/3D fluorescence images, which can detect and analyze cellular foci after channel separation. For spectral imaging, tools from Stowers ImageJ Plugins allow linear unmixing and signal isolation for complex multi-channel datasets. Using these macros and plugins, researchers can efficiently isolate single cores or channels from complex microscopy images, enabling precise quantitative analysis and visualization.

Article Content

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For this reason, the conventional single-core separation holds the optical fiber tape in a substantially straight state in the longitudinal direction, and inserts a sharp blade of a...

Fiji: ImageJ, with "Batteries Included"

Fiji Fiji is an image processing package — a "batteries-included" distribution of ImageJ, bundling many plugins which facilitate scientific image analysis.

ImageJ Macro for Image Splitting and Quantitative Particle Analysis

This repository contains the FIJI (FIJI Is Just ImageJ) macro for automated image splitting, processing, and quantitative analysis, specifically designed for optical and scanning electron

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Foci Analyzer

Foci are efficiently and reliably detected in images from different imaging modalities (confocal, widefield), with a wide range of resolutions. The output data include

BioImaging-NKI/Foci-analyzer

Foci are efficiently and reliably detected in images from different imaging modalities (confocal, widefield), with a wide range of resolutions. The output data include detailed tables with foci statistics and

Software

OpenPolScope software implements instrument control, image acquisition and processing algorithms for rapidly imaging optical anisotropies in three different modes: birefringence, polarized fluorescence,

Ultracompact 3D Splitter for Single-Core to Multi-Core Optical Fiber ...

The pivotal element is a triangular cross-section 3D multimode interference (MMI) coupler, supplemented with S-bends and adiabatic tapers to facilitate the splitting of a signal from a single

Overview

Introductory FIJI workshops hosted by LOCI''s Ellen TA Dobson. A good starting point for those new to FIJI and ImageJ''s software package. Additional tutorials on ImageJ/FIJI scripting led by Curtis

Watershed Separation

Fiji has a number of built in Automatic Thresholding methods that try to distinguish the background from the foreground. In this case the default method works pretty well, but you can see there is a long list

Single-molecule localization microscopy analysis with ImageJ

This article describes how ImageJ/Fiji can be used for image analysis, reviews existing extensions for SMLM, and aims at introducing and motivating novices and advanced SMLM users

Cell-TypeAnalyzer: A flexible Fiji/ImageJ plugin to classify cells ...

It is an open-source Fiji or ImageJ plugin for the semiautomated classification of cells according to specific cell types defined by the user. It offers a flexible and modular solution for users through an

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Fiji itself has a built-in Help menu with links to the ImageJ and Fiji websites, newsgroups, online documentation, example code, developer tools, guidance documents, etc.

DHPSFU: a Fiji plugin for fast and accurate double helix-PSF 3D single ...

Article Open access Published: 20 August 2025 DHPSFU: a Fiji plugin for fast and accurate double helix-PSF 3D single-molecule localisation microscopy Ziwei Zhang, Aleksandra

Tender for Pulling, Laying and Pit Installation of ...

Tender – MR 34/2020 Tender for Pulling, Laying and Pit Installation of underground Optic Fiber Cable The Secretary, Tender Committee Energy Fiji Limited Supply Chain Office Private Mail Bag Suva

fiji-fiber-optic-distribution-cabinet-single-core

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DHPSFU: a Fiji plugin for fast and accurate double helix-PSF 3D single ...

The double-helix point-spread function (DH-PSF) is one of the most used PSFs for large depth-of-field 3D single-molecule localisation microscopy. Due to its popularity, many algorithms have been

Optical Flow of Granular Bodies

Hi there everyone!! I have a quick question for those with some experience in optical flow. I would like to obtain some motion parameters from cells recorded in phase contrast movies. I am

Introduction to Fiji

Introduction to Fiji Introduction Fiji is a distribution of the free, open source image analysis package ImageJ, Fiji stands for Fiji Is Just ImageJ. Fiji comes with a large collection of plugins already

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