ThermoFisher
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Amira-Avizo2D Software version 2022.2

Release notes

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Contents

Introduction

This document covers the most important new features, improvements, and changes in this version of Thermo Scientific™ Amira-Avizo2D Software. In addition, you will find a list of new Xtras including video tutorials, recipes, and workflows which have been published on **amira-avizo.com** since the previous release.

We value your feedback. If you encounter any problems or have any suggestions for improvement, do not hesitate to **contact us.**.

From ISP Workflow Processing to Image Recipe Designer

Image Recipe Designer Workroom

The creation or edition of image processing recipes (previously called workflows) is now more flexible in terms of usage. It is now done from a workroom called "Image Recipe Designer" (previously ISP), which is always accessible from the main toolbar.

It is now possible to load images or recipes from within the Image Recipe Designer workroom. There is no need to go back and forth between the ISP and the Main workroom anymore.

As a consequence, the selection of the dataset used to edit the recipe is now done within the workroom.

The name of a recipe undergoing the editing process is now visible, with a useful associated mark designating this recipe is currently being modified.

Image Recipe within Image Recipe

Users can make an "image recipe within image recipe," or split a a large recipe into smaller useful recipes. The Image Recipe Player is now a module available in the Image Recipe Designer workroom. You might have a big recipe with a lot of steps that could be split into pre-processing, segmentation, labeling and analysis sections. Just create a recipe for the pre-processing, another for the segmentation, one for the labeling and finally one for the analysis. Then on top of that, create a recipe that will call those four recipes. Your recipes will be easier to understand, reusable, and better adapted to your workflows.

Support of larger images

The maximum size supported in Image Recipe Designer extends from 4k images to very large data (tested with 100k*100k; computation steps can be slow but the workroom remains usable). However, it is usually advised to design a recipe on a representative subvolume.

Default directories

The default directory when searching for a recipe in Image Recipe Player is now the same directory as the one used for saving the recipes.
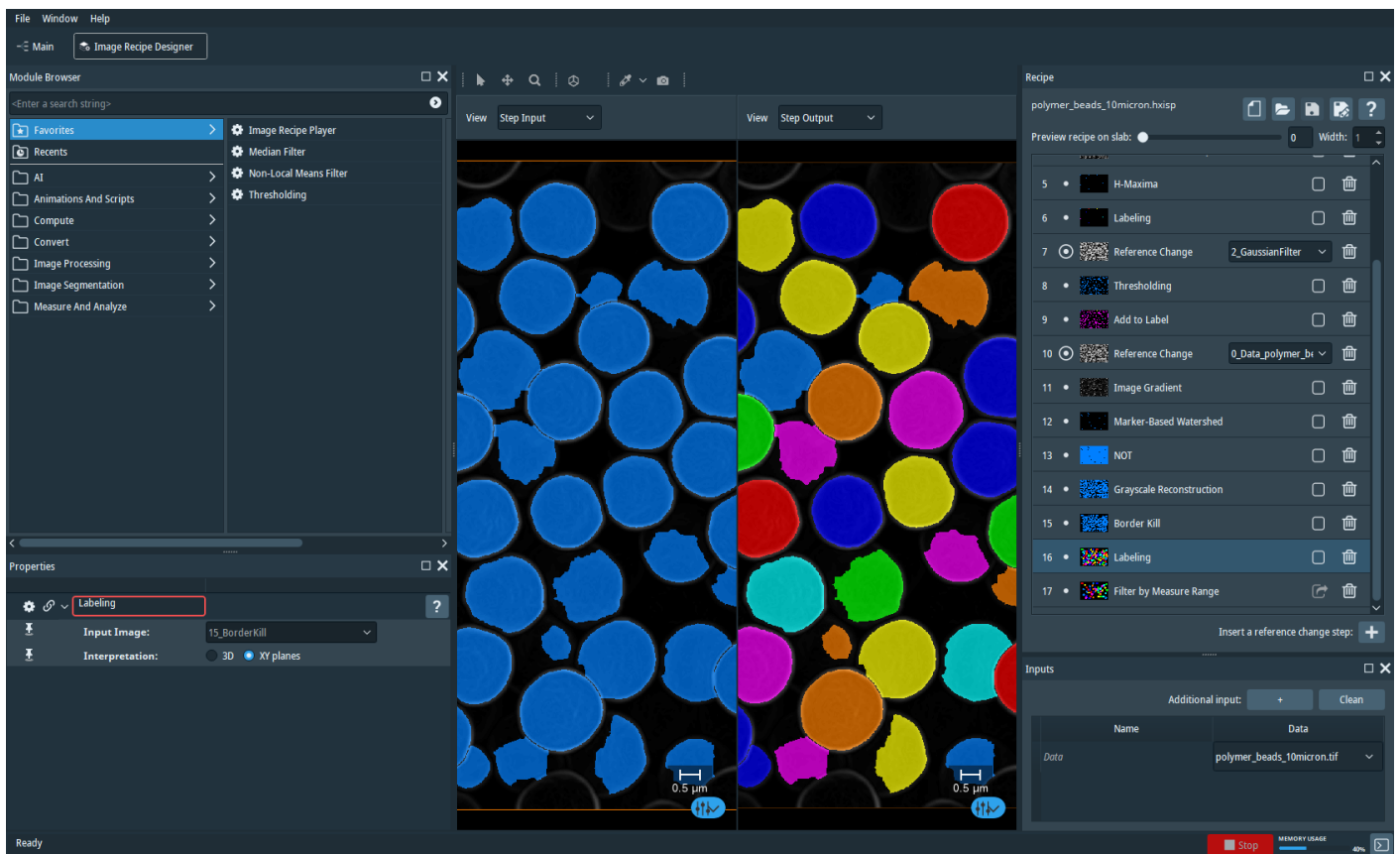

Figure 1. Amira-Avizo2D Image Recipe Designer Workroom.

Xtra recipe library

The following Xtras have been published or updated since the previous release notes. Pay particular attention to the product, license and OS requirements, as well as the installation instructions. Your feedback is welcome.

Slice by Slice Thinning (Update): This module performs the thinning of a binary image slice-by-slice.

BSE SEM denoiser (Update): U-Net model for denoising back-scattered SEM images.

Getting Started with Deep Learning Training for Image Segmentation (Update): Model and companion project for the Deep Learning tutorial.

Compatibility notes

Import of 16-bit PNG files: In previous versions, loading a 16-bit PNG was resulting in an 8-bit dataset in Amira-Avizo2D, with intensity values remapped from their initial dynamic to the [0, 255] range. Following an upgrading of our 3rd party Qt, to version 5.13.0, native support for 16-bit grayscale images is now possible. As a result, 16-bit PNG files are now read as 16-

bit images in Amira-Avizo2D without any intensity remapping anymore. Users who wish to maintain compatibility can use the module "Convert Image Type" to perform the intensity remapping explicitly. Images which use a significant range of gray values are mostly unaffected, but images which only had a few of them will see changes in the way that colors are interpolated during the conversion process. See **Figure 2** for the same 4 images loaded with this change.

Documentation and distant executable: Running Amira-Avizo2D on a local PC via an executable stored on a remote PC accessible via LAN requires that the environment variable QTWEBENGINE_DISABLE_SANDBOX be set to 1 in order to access the product documentation.

Operating systems

Amira-Avizo2D Software version 2022.2 runs on:

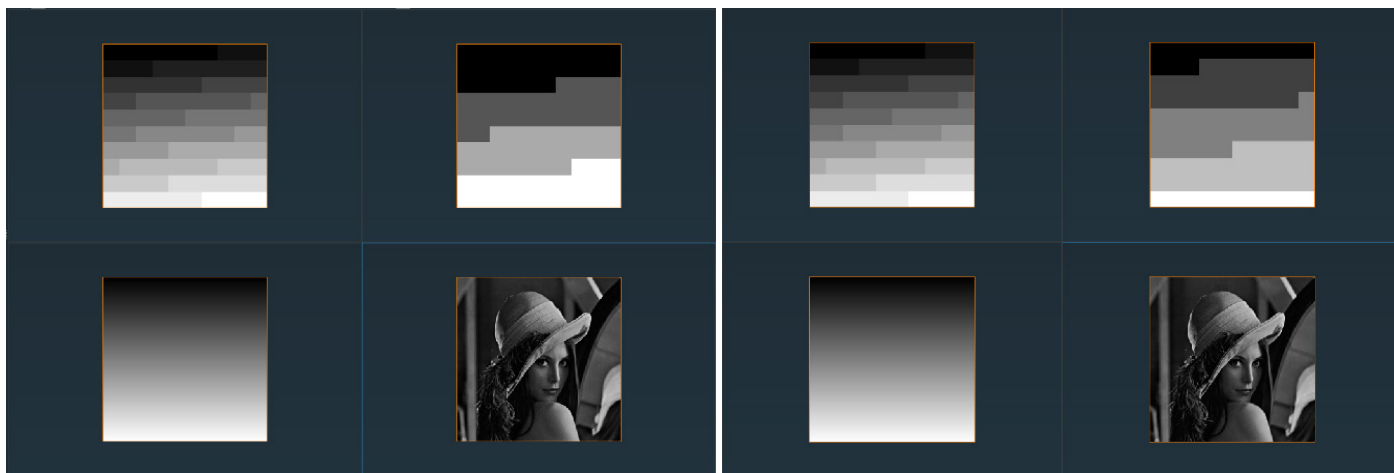- Microsoft Windows 10 (64-bit).

Figure 2. On the left are 16-bit images loaded with Amira-Avizo2D 2022.1; on the right are the same images loaded by Amira-Avizo2D 2022.2.

Resolved issues

Name	ID	Description
Membrane Enhancement Filter	AA-27284	The module has been corrected for 2D images. Following Outputs are now available: Partial Planeness Tensor Voting, Planeness
A2DAnalyzer	AA-27448	Workflow using "Separate Object" with "Skeleton Aggressive" method now runs correctly

Learn more at **thermofisher.com/amira-avizo**