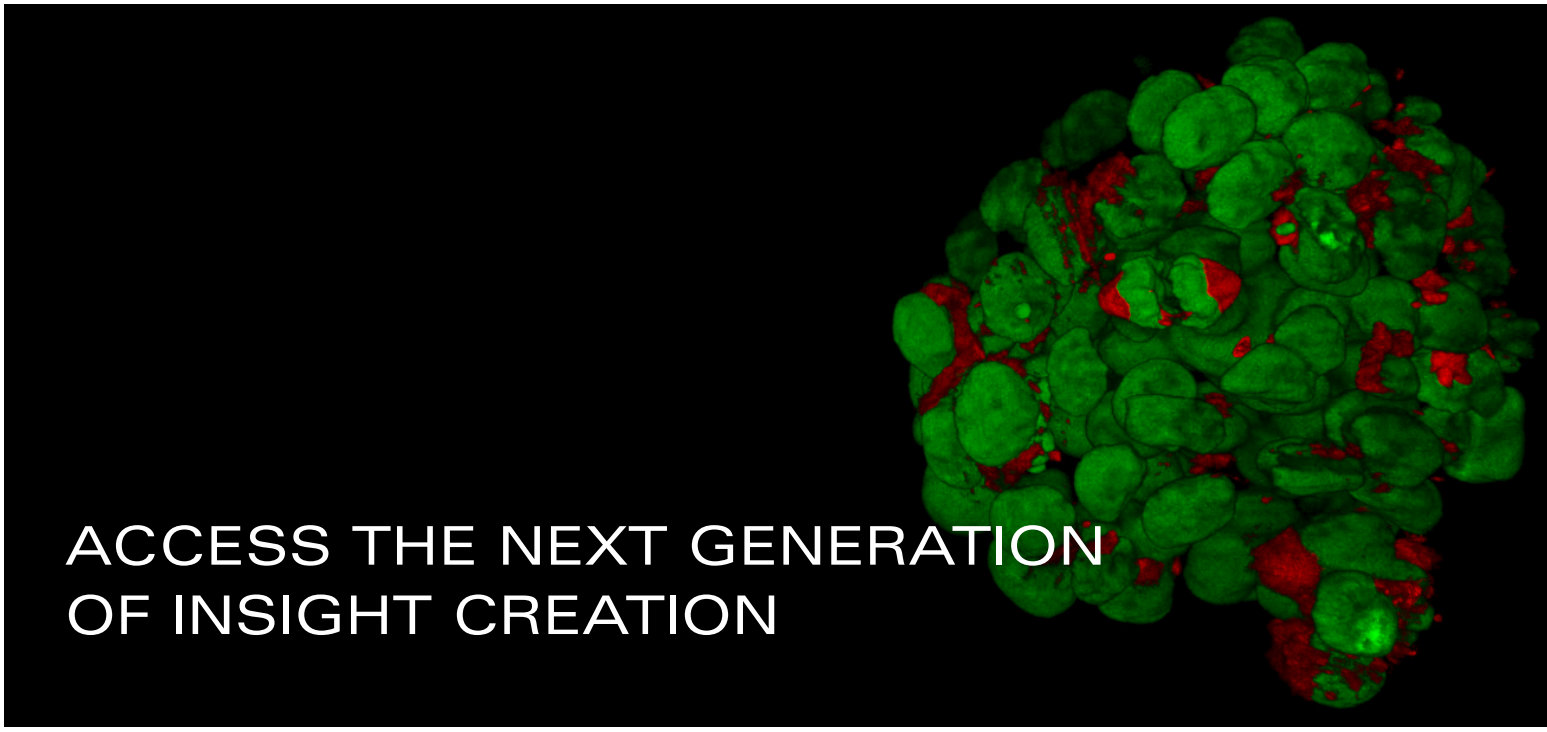
From Eye to Insight

Leica
MICROSYSTEMS

Aivia
Access the future of AI microscopy

AI-first image analysis software

THY1-EGFP labeled neuron in whole mouse brain processed using the PEGASOS 2 tissue clearing method, imaged on a Leica confocal microscope. Neurons were traced using Aivia's 3D Neuron Analysis – FL recipe. Image credit: Hu Zhao, Texas A&M University.



ACCESS THE NEXT GENERATION OF INSIGHT CREATION

AI Access for All

Aivia makes advanced data analysis accessible for all biologists - with **no computer science expertise required**.

The Aivia platform has been designed with the end user in mind, meaning powerful, state-of-the-art AI-powered technology is accessible with minimal training necessary. Quickly train laboratory users on the platform, to conduct their analysis without any specialist expertise. Benefit from next-generation, easy to use machine learning segmentation and classification tools.

Radically Simplified Segmentation

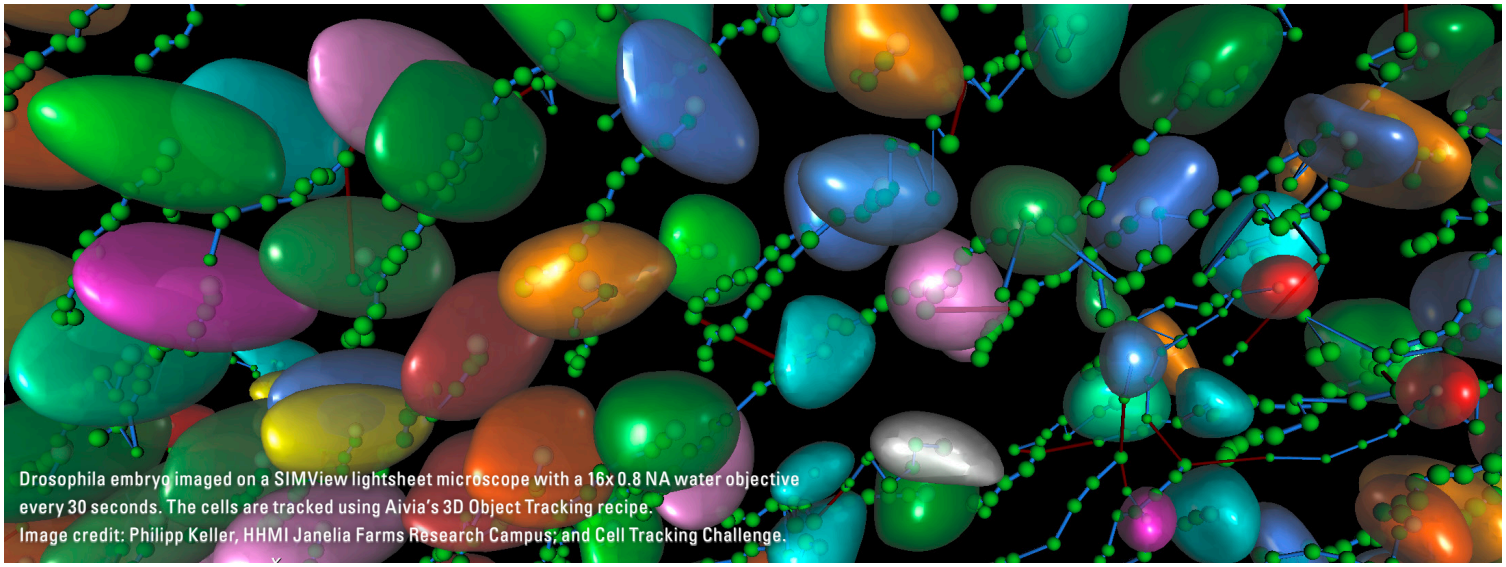
Aivia's AI-powered analysis capabilities leverage a biologist's expertise to generate **robust and reproducible segmentation results.**

This means with Aivia you can quickly and reliable generate high-quality results, helping to speed up your route to publication and uncover hidden details in your data. Overcome delays caused by error-prone and tedious segmentation tasks - freeing up your team from time-consuming lab work allowing them to focus instead on innovation and discovery.

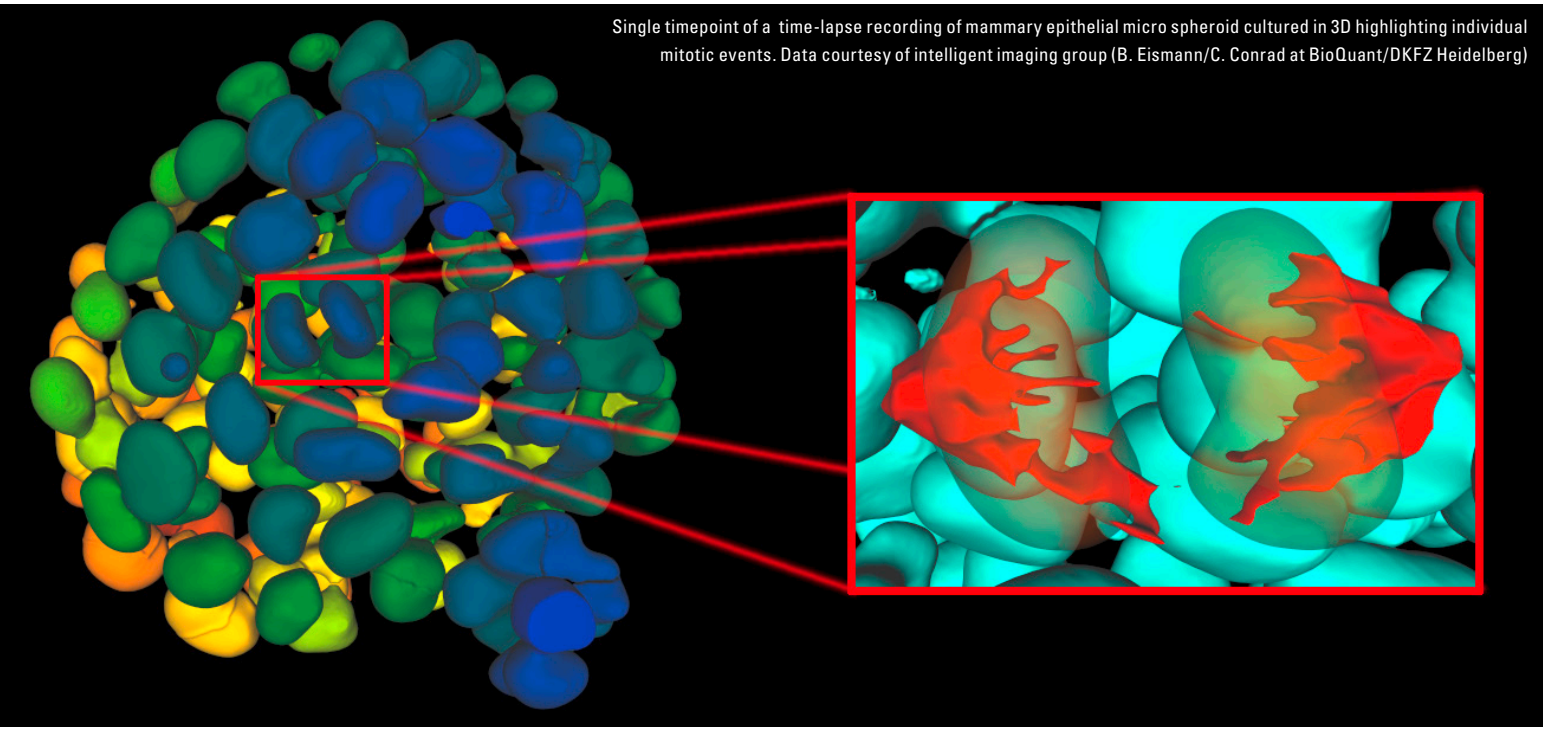
Total Freedom on a Single Platform

Aivia's powerful and fast 2-5D visualization and analysis unlocks all the value of your data - **within a single platform**.

No longer does your team have to learn to operate and adopt multiple imaging and analyses systems into their workflow - the Aivia platform unifies all state-of-the-art applications you will need in a unified user experience and works with all microscopy systems. You can install and use Aivia both on your local computer as well as via a web browser, AiviaWeb.



Drosophila embryo imaged on a SIMView lightsheet microscope with a 16x 0.8 NA water objective every 30 seconds. The cells are tracked using Aivia's 3D Object Tracking recipe.
Image credit: Philipp Keller, HHMI Janelia Farms Research Campus; and Cell Tracking Challenge.



Single timepoint of a time-lapse recording of mammary epithelial micro spheroid cultured in 3D highlighting individual mitotic events. Data courtesy of intelligent imaging group (B. Eismann/C. Conrad at BioQuant/DKFZ Heidelberg)

Aivia delivers high performance image processing and visualization to microscopists and researchers looking to extract more information from their images.

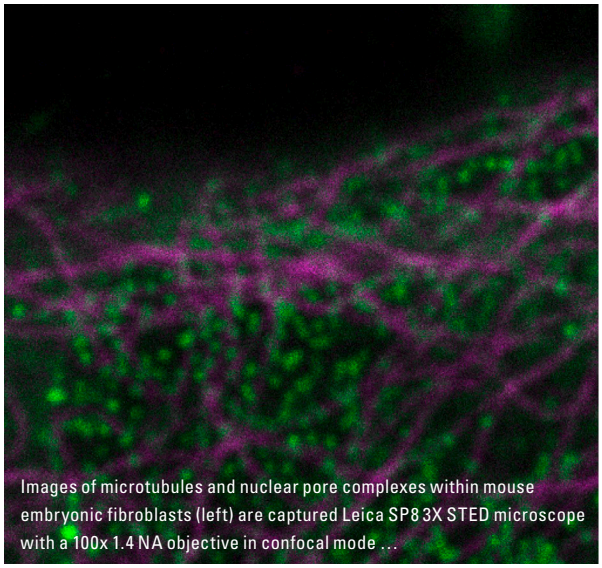
Using state-of-the-art, AI-first software architecture, Aivia is a uniquely innovative and complete 2-to-5D image visualization, analysis and interpretation platform designed for the reliable processing and reconstruction of highly complex images in just minutes.

> Make AI-powered image analysis accessible for all - with no computer science expertise required

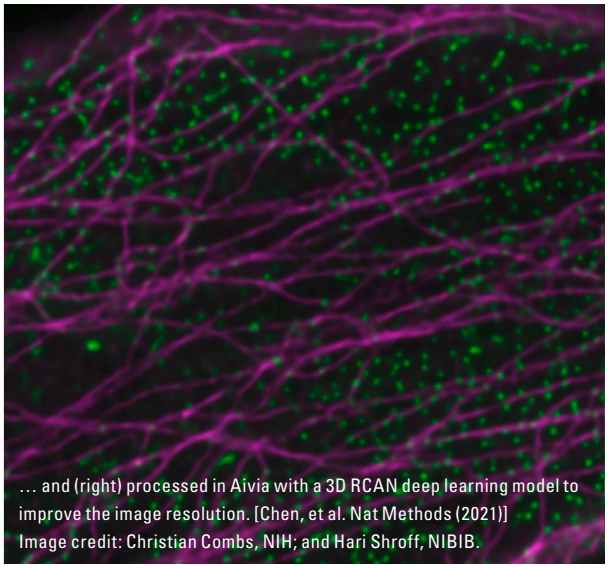
> Leverage machine learning capabilities to generate robust and reproducible segmentation results

> Realize powerful and fast 2-5D visualization and analysis to unleash the value of your data - all within a single platform

The AI-powered tools in Aivia simplifies key steps in imaging analysis and provides your lab with solutions tailored to your data.



Images of microtubules and nuclear pore complexes within mouse embryonic fibroblasts (left) are captured Leica SP8 3X STED microscope with a 100x 1.4 NA objective in confocal mode …



… and (right) processed in Aivia with a 3D RCAN deep learning model to improve the image resolution. [Chen, et al. Nat Methods (2021)]
Image credit: Christian Combs, NIH; and Hari Shroff, NIBIB.

Key Features

Artificial Intelligence

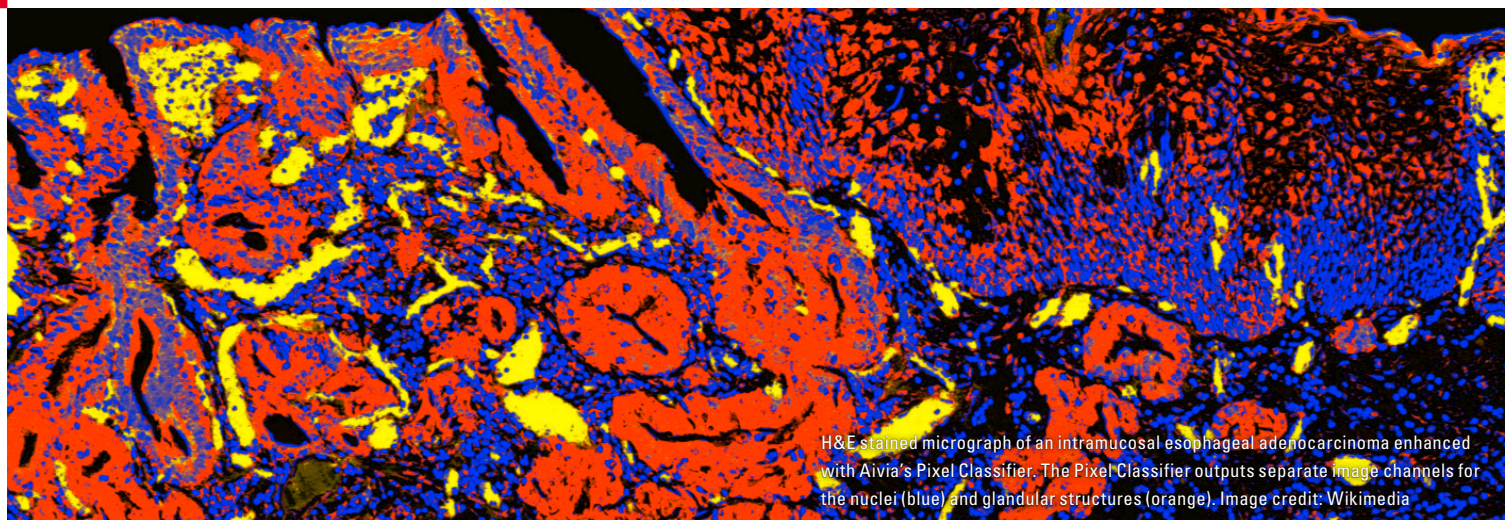
Teravoxel 3D rendering

Virtual reality

Neuron tracing

Object tracking

Leica
MICROSYSTEMS

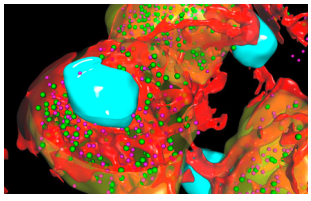


H&E stained micrograph of an intramucosal esophageal adenocarcinoma enhanced with Aivia's Pixel Classifier. The Pixel Classifier outputs separate image channels for the nuclei (blue) and glandular structures (orange). Image credit: Wikimedia

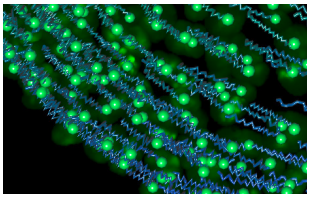
WITH AIVIA, YOU ARE THE ANALYSIS EXPERT

Choose the Aivia package that best suits your research needs

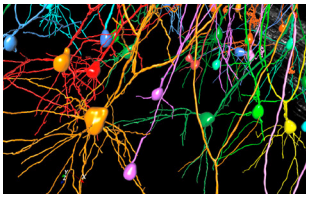
Aivia Cell Bio
Aivia Cell Bio offers the highest performance image visualization and exploration. With this package, you can annotate, perform some manual analysis; and create stunning visuals.



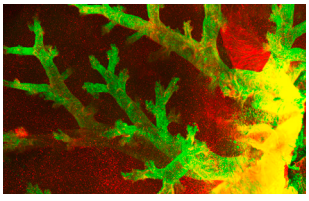
Aivia 3D
Aivia 3D is for researchers looking for automated analysis solutions for 3D and 3D+time applications. The software is designed to work with huge datasets to give you accurate analysis results.



Aivia Neuro
Aivia Neuro is designed for neuroscientists looking for an automated neuron tracing and spine analysis solution. Generate full neuron reconstruction of an image in seconds.



AiviaWeb
With AiviaWeb you analyze images from anywhere around the world. Your team can also access all files created by your imaging systems anywhere - all you need is an internet connection.



Start a free trial - Try Aivia now on AiviaWeb

CONNECT WITH US!

Leica Microsystems CMS GmbH | Ernst-Leitz-Strasse 17–37 | D-35578 Wetzlar (Germany)
Tel. +49 (0) 6441 29-0 | F +49 (0) 6441 29-2599

https://go.leica-microsystems.com/aivia-demo

Copyright © by Leica Microsystems CMS GmbH, Wetzlar, Germany, 2021 · Subject to modifications
LEICA and the Leica Logo are registered trademarks of Leica Microsystems IR GmbH.