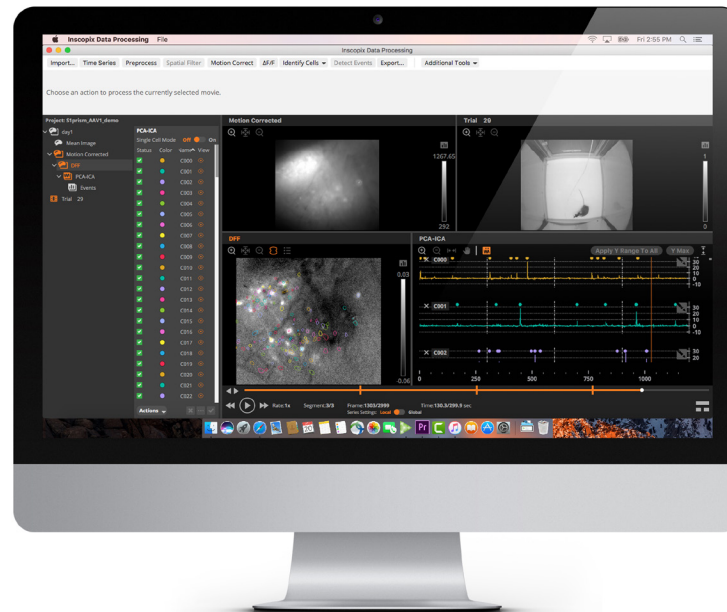


Data processing software



Transform your calcium imaging videos into powerful insights



INSCOPIX

Turn your data into insights — faster

The Inscopix Data Processing Software is part of our end-to-end integrated solutions offering scientists a comprehensive range of options to process raw calcium (Ca^{2+}) videos with ease. Our software is built with a robust set of image processing algorithms that allows researchers to effortlessly transform large video datasets into salient cell ensembles and Ca^{2+} traces. These advanced visualization tools enable you to quickly navigate complex Ca^{2+} dynamics imaged using nVista™ or nVoke™ during active behavior, and identify relevant Ca^{2+} events with confidence.

Navigate & transform your Ca^{2+} videos into relevant data in six easy steps



1. Preprocessing

Minimize data footprint: downsample, crop field of view, remove artifacts.

2. Motion correction

Correct motion of the brain relative to the skull with translational image registration.

3. $\Delta F/F$

Normalize the instantaneous fluorescence by its time-averaged mean.

4. Cell identification

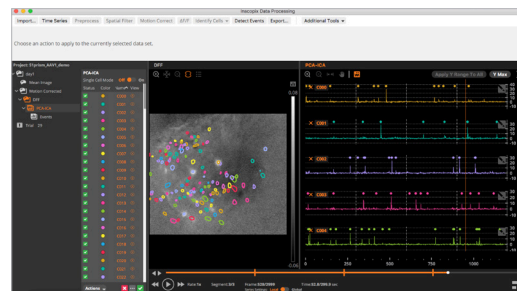
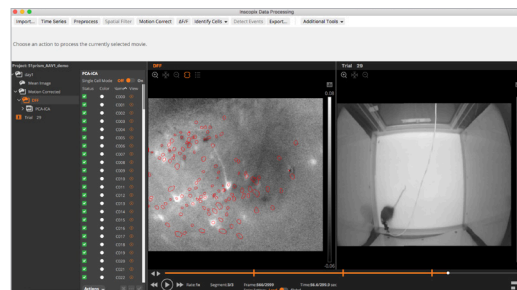
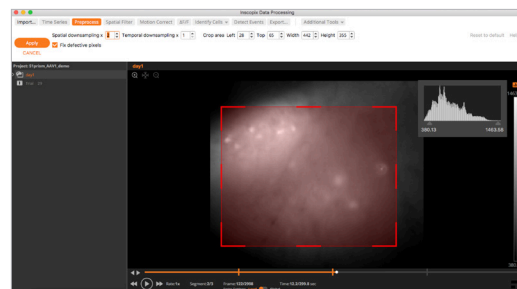
Extract a set of cells with spatial footprints & activity traces using manual (ROI) or automated (PCA/ICA) segmentation.

5. Longitudinal cell registration

Align cell maps and match cells based on their footprints across imaging sessions.

6. Event detection

Detect events from calcium traces based on a time varying threshold.



Key benefits

- Streamline your analysis with our complete & validated pipeline to extract traces and events from your longitudinal recordings
- Navigate intuitively through the processing workflow - no scripting expertise required
- Focus on your science through integrated visualization of your calcium movies, processing results, and behavioral videos
- Export your data at any stage in formats compatible with other analysis tools including Matlab, Excel, and ImageJ
- Batch process your data with Matlab and Python APIs

Software specifications

Description	Specification
Operating systems	64-bit versions of: <ul style="list-style-type: none">• Windows: 7 Professional and 10 Pro• Mac: OSX 10.11 and OSX 10.12• Linux: CentOS 7
Behavioral video formats	A variety of formats are supported including: <ul style="list-style-type: none">• Noldus Phenotyper videos with Ethovision• ANY-maze videos output (e.g. dv, mjpeg or MainConcept)• Import csv behavioral data (e.g. Ethovision and ANY-maze)
Export formats	<ul style="list-style-type: none">• Movies: Neurodata without borders (hdf5), tif, avi• Traces and events: csv
APIs	<ul style="list-style-type: none">• Matlab API• Python API



The new Inscopix Data Processing Software is a valuable data processing tool that has allowed us to extract calcium traces effectively from large-scale imaging data recorded in awake behaving animals.

Huda Zoghbi, Baylor College of Medicine

Accelerate your science

Inscopix imaging technology combined with our robust data processing pipeline has been validated by multiple researchers worldwide in top-tier publications.

With Inscopix, you can be assured of the highest quality standards in achieving reproducible Ca^{2+} imaging results and advance new and critical insights in your neural circuit research.





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