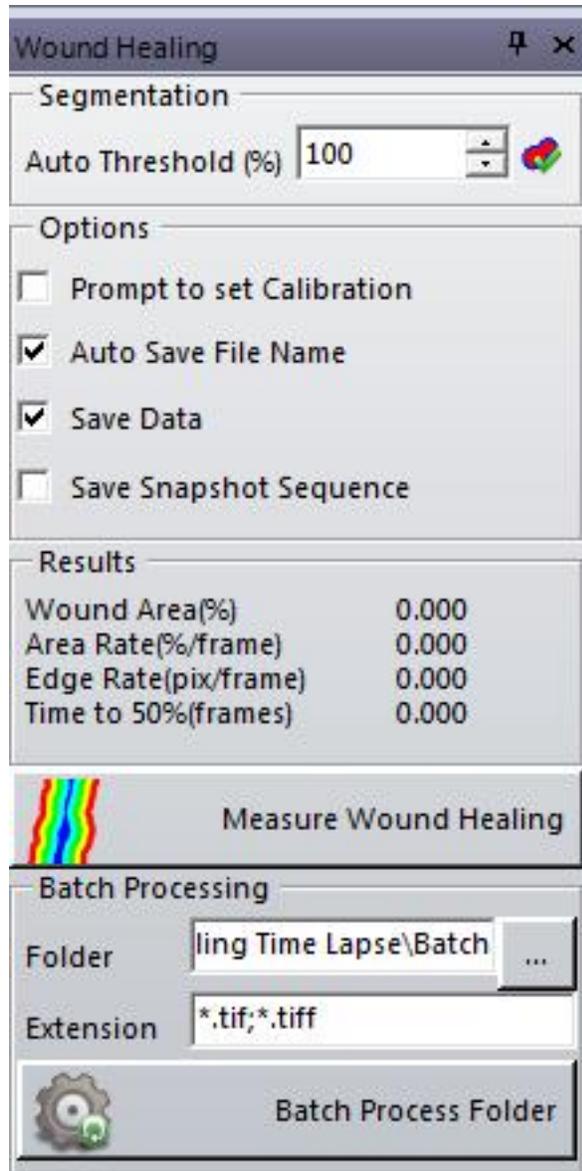


Wound Healing Application

Description:

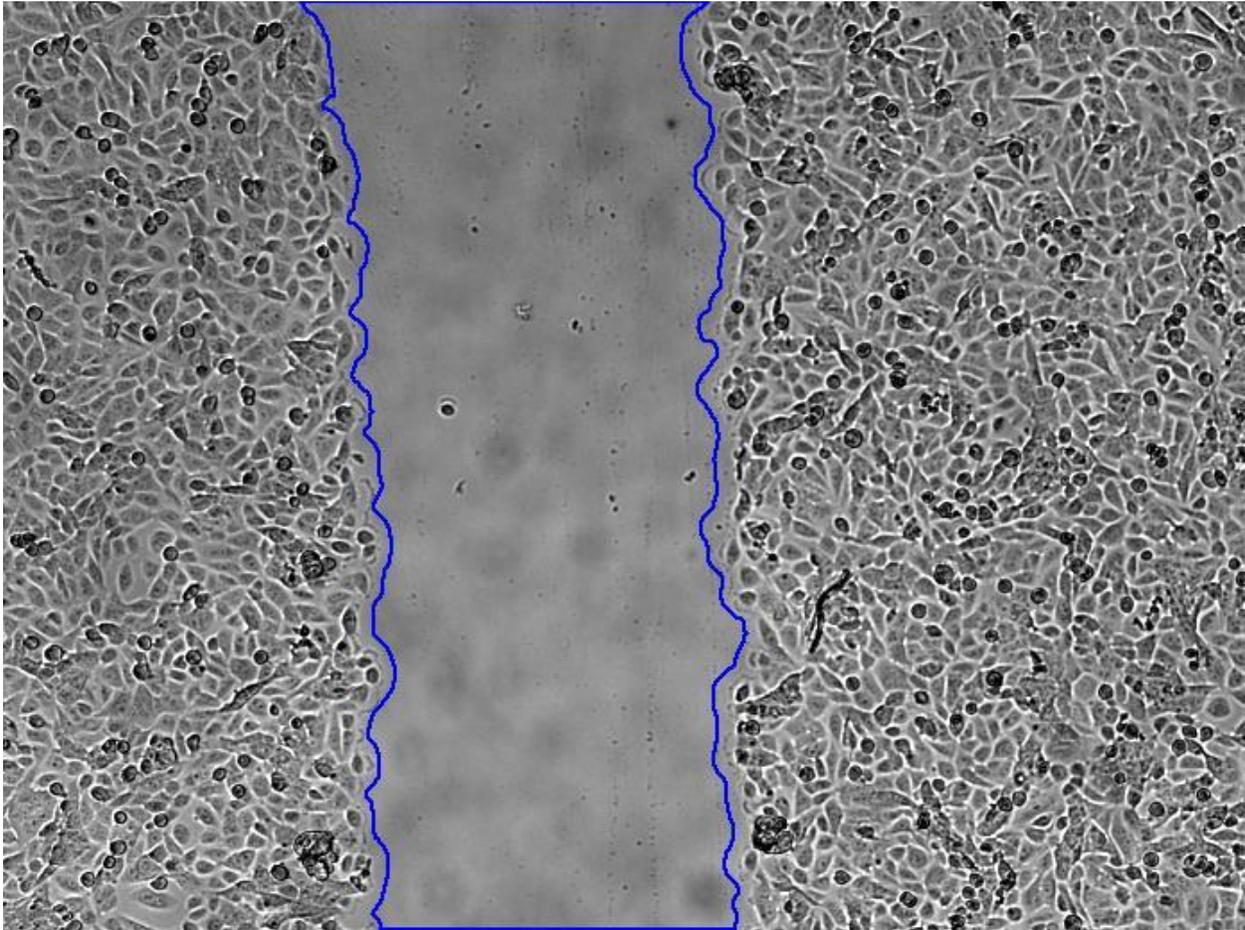
Measures wound healing rates on time lapse sequences of wounds. The app works on phase contrast images and can automatically generate and save results and snapshot sequences of measurements.

User Interface:



The **Auto Threshold (%)** control defines scale of threshold relative the the value calculated automatically. In most cases users should leave the value at default 100%. If the contrast between the wound and cells is very low, the threshold can be reduced.

User can execute **Test Count**  to check the wound segmentation. The result should look as on the example below:



Clicking the **Measure Wound Healing**  button will measure wound healing on whole sequence and save the results.

Optionally, when the **Prompt to Set Calibration** option is on the app will prompts user to set correct calibration.

The Data Collector data will be saved if **Save Data** option is on. Also a publication copy of image sequence with burned measurement overlays can be saved to a file, if the **Save Snapshot Sequence** option is on. When **Auto File Name** option is active the data file and snapshot sequence are saved automatically to the same folder as the source image with ADOXML and Snap.SEQ extensions correspondingly. If **Auto File Name** option is off, user will be prompted to select destination folder and name for the files.

The program calculates wound specific parameters:

Wound Area (%) - wound area percentage relatively to the wound area on the first frame.

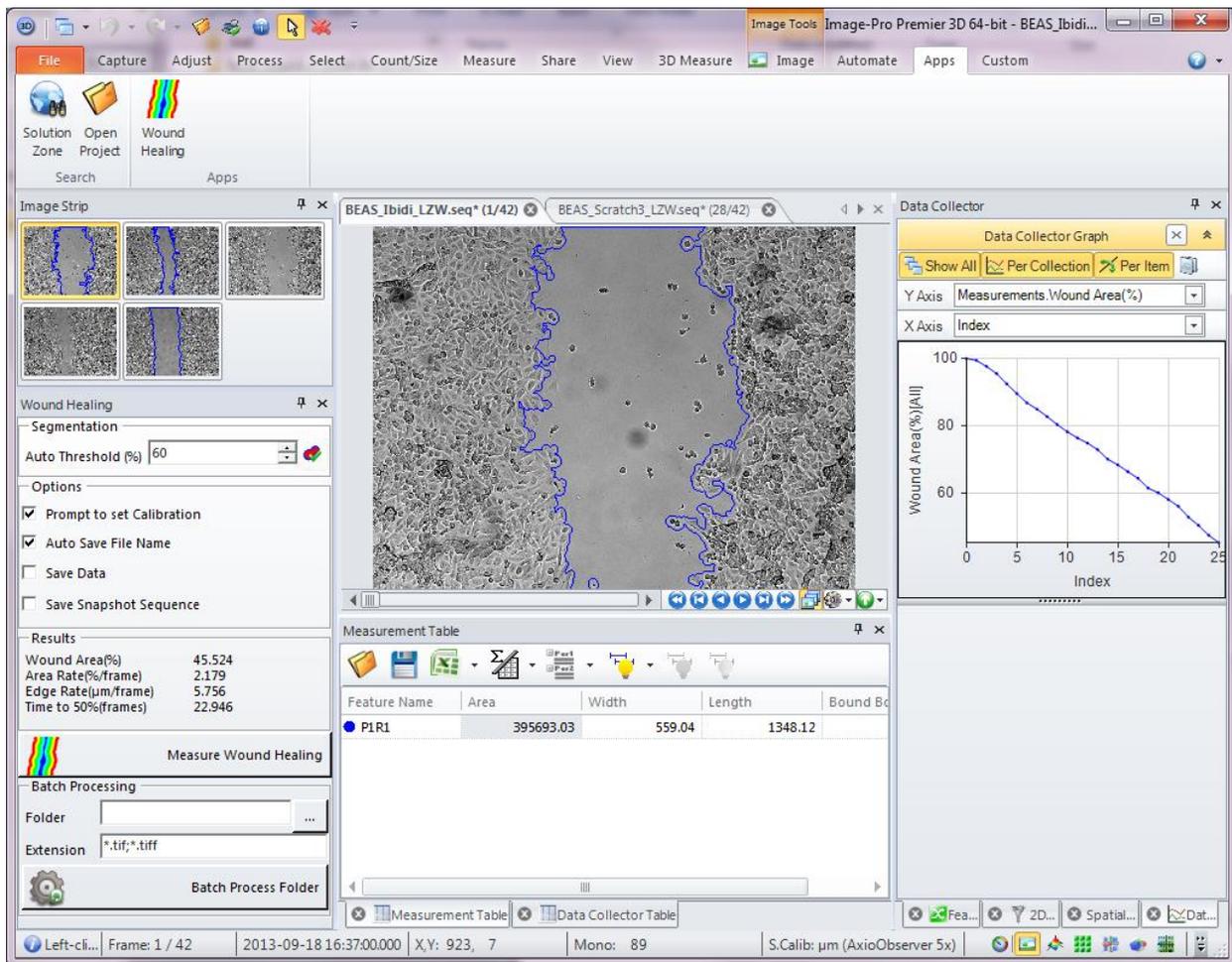
Area Rate(%/frame) - rate of the wound area change in percents per frame.

Edge Rate(unit/frame) - healing wound edge rate in calibrated units per frame. If the image doesn't have spatial calibration, the rate is reported in pixels/frame.

Time to 50%(frames) - the time in frames when wound area is reduced to 50% from the initial area.

All values are calculated dynamically for every frame. The processing stops at the end of the sequence or when the relative wound area will get smaller than 50%.

The result screen shot is shown below:



All files in a given folder can be processed automatically using **Batch Processing**. User has to specify **Folder** and **Extensions** and then click the **Batch Process Folder** button. The results of batch processing are saved into the folder with original images.

Demo files:

Demo sequence can be downloaded from

ftp://ftp.mediacy.com/uploaded/Premier_Apps/WoundHealingAppDemo.zip

Code:

The code can be used as an example to do image processing on invisible images, show user prompts, use interaction mode of commands, snap active frame to a hidden image, full setup of Count/Size options, setting up Data Collector, adding a user-defined measurement to Data Collector, save files with prompt.

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