

## **Workflow idea 1**

Nuclei detection and analysis

## Workflow Idea 1: Nuclei detection and analysis

**Goal:** Detect individual nuclei in each of the 96 images and report

- (1) total nuclei per image
- (2) total nuclei in all images
- (3) morphology of each nucleus (diameter, perimeter, aspect ratio)

**Expected difficulty level:** Easy to Medium

**Expected challenge(s):** Separation of overlapping/touching nuclei.

# Workflow Idea 1: Nuclei detection and analysis

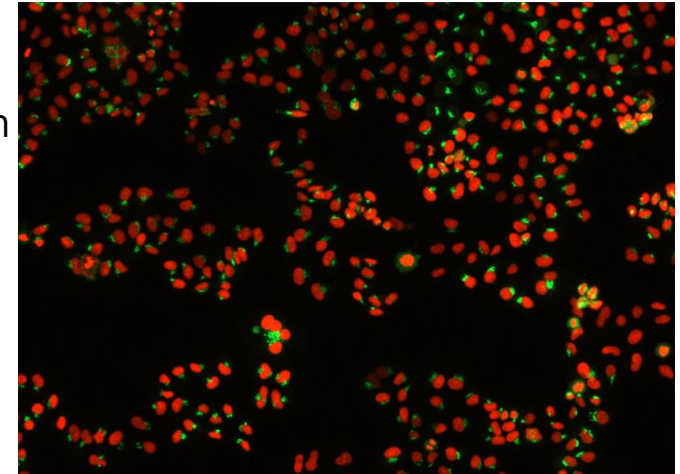
## Dataset / image information:

**File name:** WF01\_cell\_counting\_96\_well.czi

File Information	
Name	cell_counting_96_well
File Type	Carl Zeiss Image (*.czi)
File Path	E:\APEER_contest_datasets\01_CD7_cell_counting\cell_counting_96_well.czi
File Size	1.01 GB
Created	3/5/2019 1:42:31 PM
Modified	3/5/2019 1:32:16 PM
User	
Compression Method	Uncompressed
Compression Quality	100
Image Dimensions	
C Channels	2
Tiles	96 Tiles (96 Scenes)
Scaling (per Pixel)	0.457 $\mu\text{m}$ x 0.457 $\mu\text{m}$
Image Size (Pixels)	219466 x 139662
Image Size (Scaled)	100.33 mm x 63.85 mm
Bit Depth	14 Bit
Image Center Position	X: 4.26 mm, Y: 8.36 mm
ROI Center Offset	X: 0.00 $\mu\text{m}$ , Y: 0.00 $\mu\text{m}$

**Note:** The image is in .czi format. Please read the last page of this document for instructions on how to read czi files.

The image has 2 channels; you may want to only include the channel with nuclei; represented in red in these images.



Nuclei (red) Mitochondria (green)

