Creating publication-quality videos

OBJECTIVE

Videos and/or video summaries are becoming increasingly popular tools in the scientific literature. A well-made video offers an effective means of simplifying and communicating complex scientific ideas. To help you produce videos of the highest quality, Nanolive have developed a simple, easy-to-use, customizable tool that allows you to create beautiful, professional-looking videos, that are ready for publication!
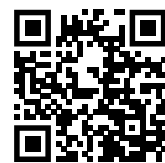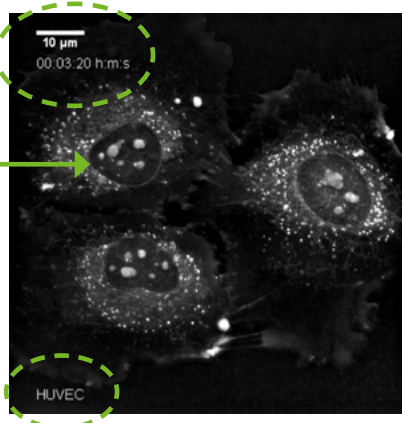
EXPERIMENTAL APPROACH

We tested the tool using an existing dataset, which was created in house using human umbilical vein endothelial (HUVEC) cells incubated with endothelial cell growth medium and fibronectin (click here for details). Images were taken on our 3D Cell Explorer (see here) at an acquisition rate of one image every 20 secs. We used our tool to create a z-max-projection out of each z-stack, add a scale bar, time stamp and title ("HUVEC") to the video, produced at a frame rate of 24 frames per second. The output is shown below.

Standardized scale bar and time stamp added

Creating a z-projection and adjusting the contrast of the image increases the visibility of fine structures such as nucleoli in the nucleus

Text titles can be added

Scan me to watch the video or click here!

EVALUATION

• The production of high-publication-quality videos requires: (a) excellent image contrast; (b) a time stamp; and (c) a scale bar. Our tool offers a simple solution to all these challenges:
  a) **Excellent image contrast** is achieved by creating a z-projection and prompting the user to apply a contrast correction based on a contrast histogram. The first task is performed automatically by the tool. The second, offers users the chance to modify the contrast correction independently or calculate it automatically.
  b) **Addition of a time stamp** can be automated if users choose to specify the experimental details they used.
  c) **Scale bars** are always, automatically added in the same format (hh: mm: ss) and the same place in the video.
• There are several other options that users can define such as specifying whether the video should be produced at a particular frame rate and deciding whether a text title should be added to the video.

Already a client? Contact our team to request the tool here.

Want to become a client? Book a demonstration with your local Nanolive representative today here!