High Quality Image Acquisition

1. The microscope should be properly Koehler adjusted.

2. Select the appropriate magnification/optical resolution, centre and focus the specimen structure.

3. Use auto exposure for standard samples and manual exposure if the automatic exposure creates too dark or too bright images.

4. For good color reproduction:
   a. Choose the right illumination settings for halogen light sources (100W: 9V + Light balancing daylight filter/LBD). LED illumination is always fine.
   b. Use a white specimen as reference (business card) and perform a white balance in the camera control of imaging software.

5. Select the appropriate image size and pixel resolution:
   a. Live image: usually speed matters more than image size and resolution (lower image size and thus resolution makes sense: binning).
   b. Snap image: depends on Microscope and camera specs and purpose of the image.
      The necessity for high pixel resolution (small pixels) is indicated by: Low magnification (in combination with high NA).
      The necessity for low pixel resolution (large pixels) is indicated by: High magnification.
      The necessity for a high amount of pixels (image size) is indicated by: Publication of images in large format and highest quality.
   c. Sensitivity: large pixels will increase the light collecting ability and thus require lower exposure time, increasing live speed and protecting the sample.