

Finding cures. Saving lives. Giving hope.



Tricks & tips on image acquisition with Olympus VS 120 & handling large sized images

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What is Olympus VS 120? Lab J2.08

• Microscope based slide scanner—100 slides



Typical applications

- Bright Field (BF)
- Fluorescence
- Polarisation





Part 1: tips & tricks on image acquisition

5 common issues & their resolutions

- **1. Unable to view your sample in live window**
- **2.** Faint signals
- 3. Out of focus image (blurry)
- 4. Shading issue
- 5. Photobleaching



1. Unable to view your sample in live window



2. Faint signal



3. Out of focus image (blurry)

- Sample placement
- Focus points
- EFI (extended focal image)
- Z-offset





4. Shading issue

• Calibrate it!





5. Photobleaching

- Decrease illumination
- Overview using BF
- Close proximity to sample ROI (free hand drawing)
- Multiple selection of ROIs





Part 2: handling large-sized scanning images

Introduction

- Creation of large files, i.e. BF 1.5CM X 1.5CM—2-3GB
- Always save in VSI format first
- Can be directly opened with Olyvia, CellSens, VS-ASW/Desktop, Fiji ImageJ, not Huygens yet





CellSens: save as, export, analyse .VSI data

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CellSens: VSI to Tiff (1) < 2G

"save as" directly



CellSens: VSI to Tiff (2) 2-5G

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CellSens: VSI to Tiff (3) >5G

"resize" down first



CellSens: VSI to Tiff (3) >5G

or "crop" first...

VS Desktop: VSI to Tiff using "converter" < 4G

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VS Desktop: V

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• Convert to BigTIFF!

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Tip: extract data in CellSens & VS ASW/Desktop

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Take-home messages

1. Available software and applications

2. How to reduce image size?

- CellSens: resize, crop
- VS Desktop: scan details only, binning, tiling
- FIJI ImageJ: import small sized series
- Olyvia: viewer only, cannot save images...

Enquiries, questions, or review training?

- Contact me: <u>hong.yu@Sydney.edu.au</u>; 8627 3211
- Visit our website: https://sydneyuni.atlassian.net/wiki/spaces/WIF/

Thank you!