

Webex-based remote instrument control guide

- 1) Once a microscopic imaging experiment is scheduled, the host (i.e., Hunter Bioimaging Facility) will send an email containing a Webex meeting link to the remote user. A sample email is shown below:

Hello ,

Please join my meeting that is currently in progress.

Topic: test

Date: Thursday, July 15, 2010

Time: 1:09 pm, Eastern Daylight Time (New York, GMT-04:00)

Meeting Number: 577 310 732

Meeting Password: Gb310r

To join the online meeting (Now from iPhones too!)

1. Go

to <https://genecenter.webex.com/genecenter/e.php?AT=MI&EventID=151385152&UID=1156399147&PW=NMDkzNGNjMjll&RT=MiMxMQ%3D%3D>

2. If requested, enter your name and email address.

3. If a password is required, enter the meeting password: Gb310r

4. Click "Join".

5. Follow the instructions that appear on your screen.

To join the audio conference only

To receive a call back, provide your phone number when you join the meeting, or call the number below and enter the access code.

Call-in toll-free number (US/Canada): 1-866-699-3239

Call-in toll number (US/Canada): 1-408-792-6300

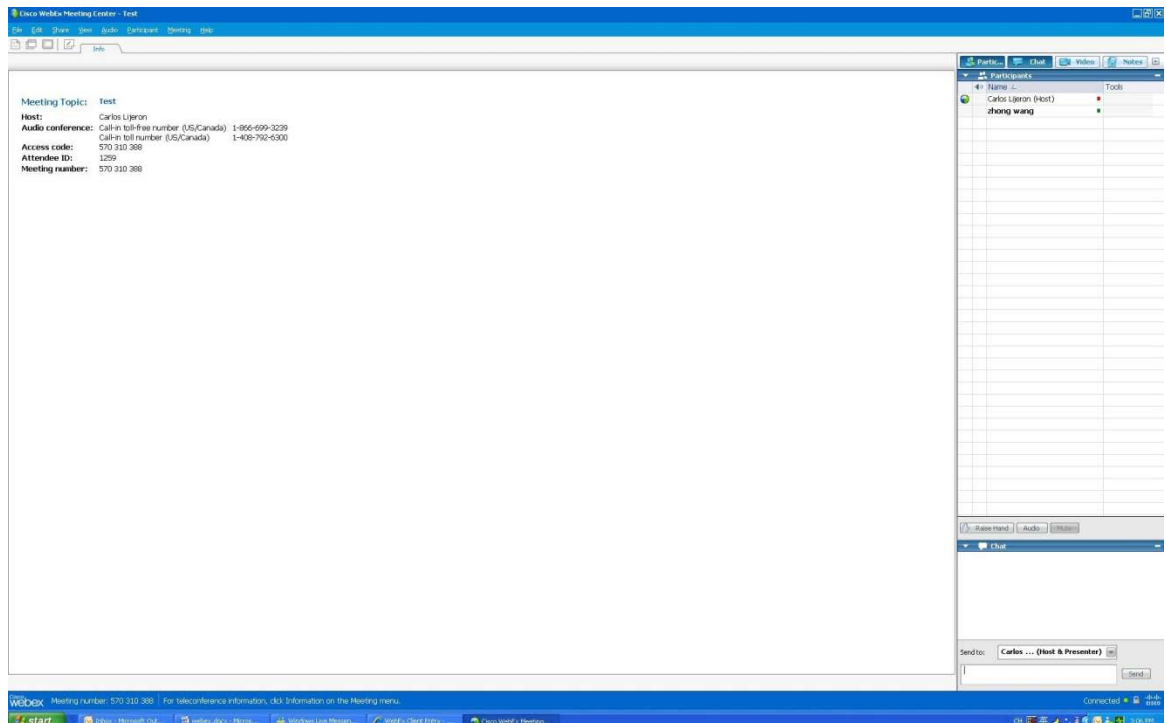
Toll-free dialing restrictions: http://www.webex.com/pdf/tollfree_restrictions.pdf

Access code:577 310 732

2) Click the above link, you will have the following login screen:



You need to enter your name, email address, and then click “Join”.
3) Then the remote user will have Webex screen shown below:



During the Webex loading process, there will be a pop-up audio conference menu, remote user can follow the menu instructions (or instructions in the email, check step 1) for audio conference or just ignore it if audio service is not used. On the right-bottom corner of the screen, a text input window can be found for user- host communication.

- 4) When the host is ready, he can share his desktop screen to the remote user. A sample desktop screen is shown below:



- 5) For the remote user, the Webex control panel is shown below:



Click this icon to ask remote control

By clicking the triangular icon on the right-bottom corner, the remote user can send a request to the host for remote desktop control.

- 6) After this request is approved by the host, the remote user can fully control the application softwares on the host's desktop.
- 7) For example, if the spinning disk microscope is used for the experiment, the remote user can follow the instructions below:

Velocity Software Operations

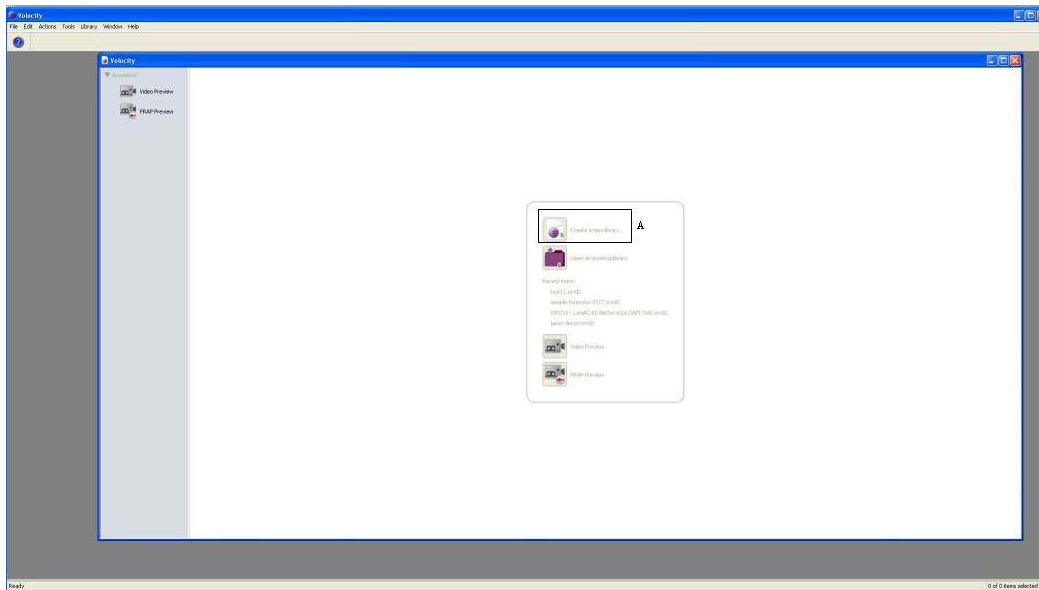


(1) Start the **Velocity** software by double-click the following icon on the desktop:

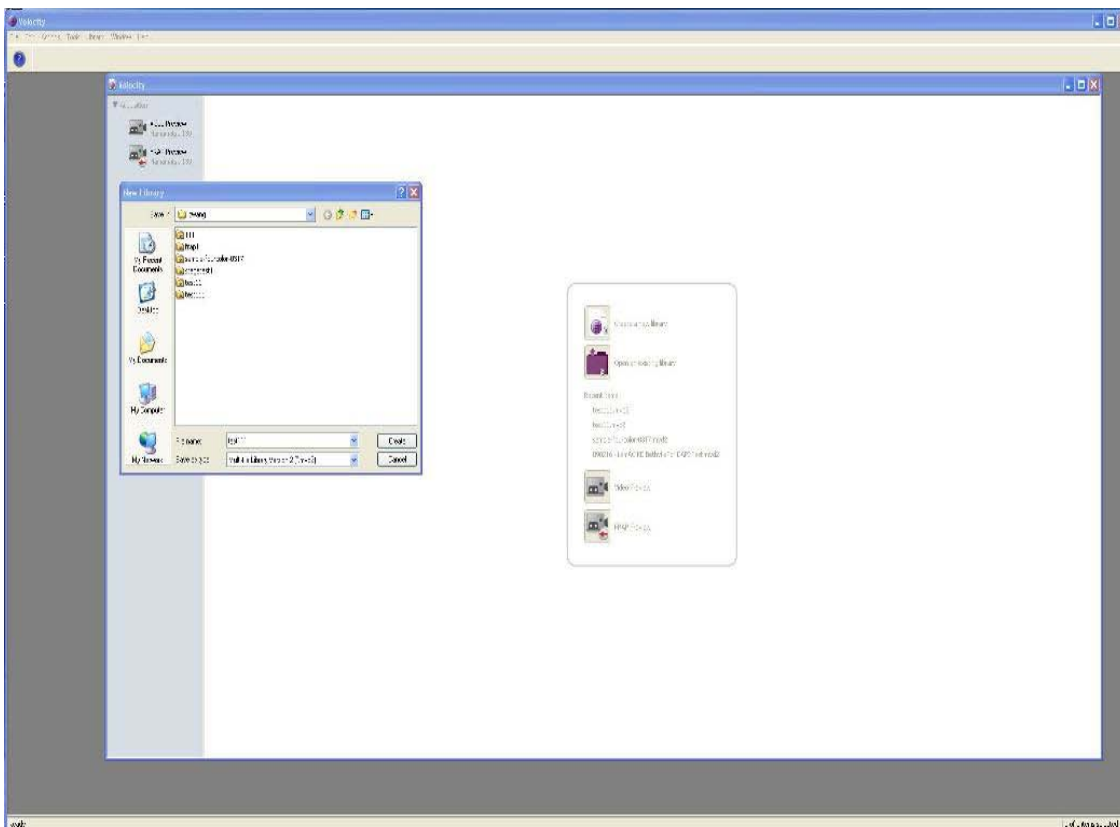
(2) The following license menu will appear, then click “connect”:

A screenshot of the 'License Server' dialog box. The title bar is blue with the text 'License Server' and a red close button. The main area is light beige. It contains the text 'Connect to the license server at 146.95.150.51 (146.95.150.51) as:'. Below this are three input fields: 'User ID:' with 'BioImaging' entered, 'Password:' with four black dots, and 'Configuration:' with 'vis/quant' selected in a dropdown menu. There is a checked checkbox for 'Save Password'. At the bottom are three buttons: 'Change Password...', 'Connect', and 'Cancel'.

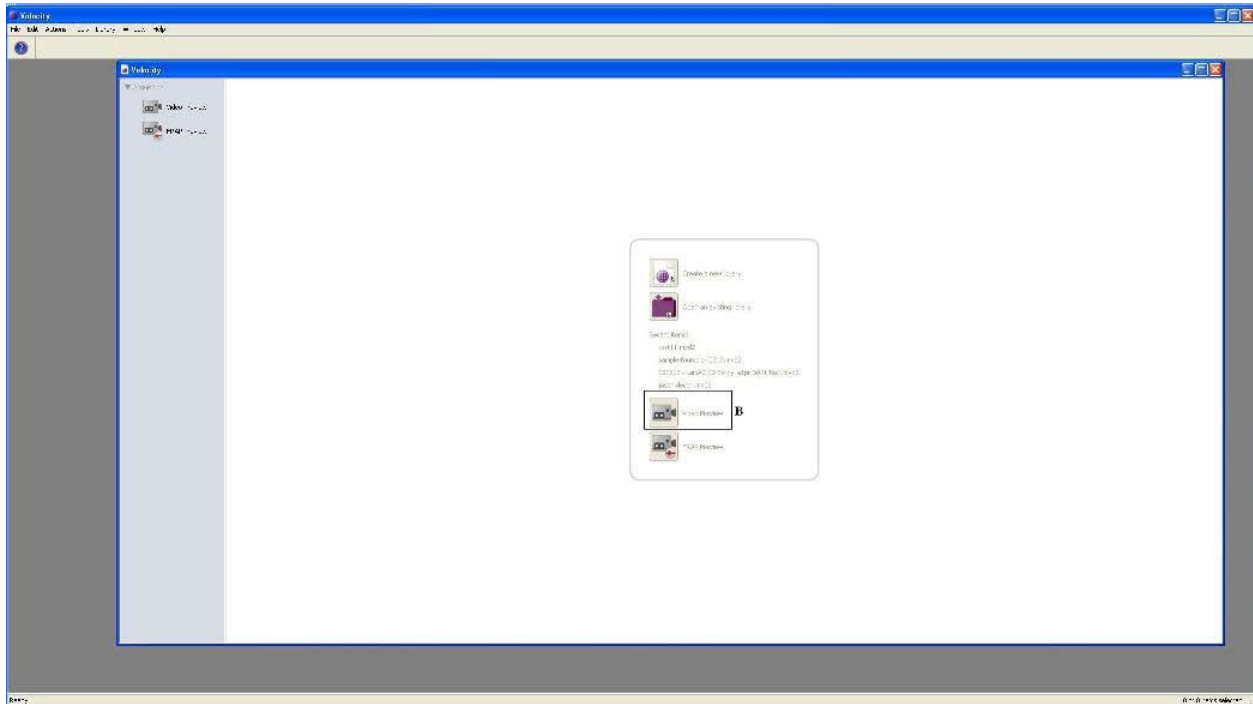
(3) After the software is successfully initialized, the following window appears:



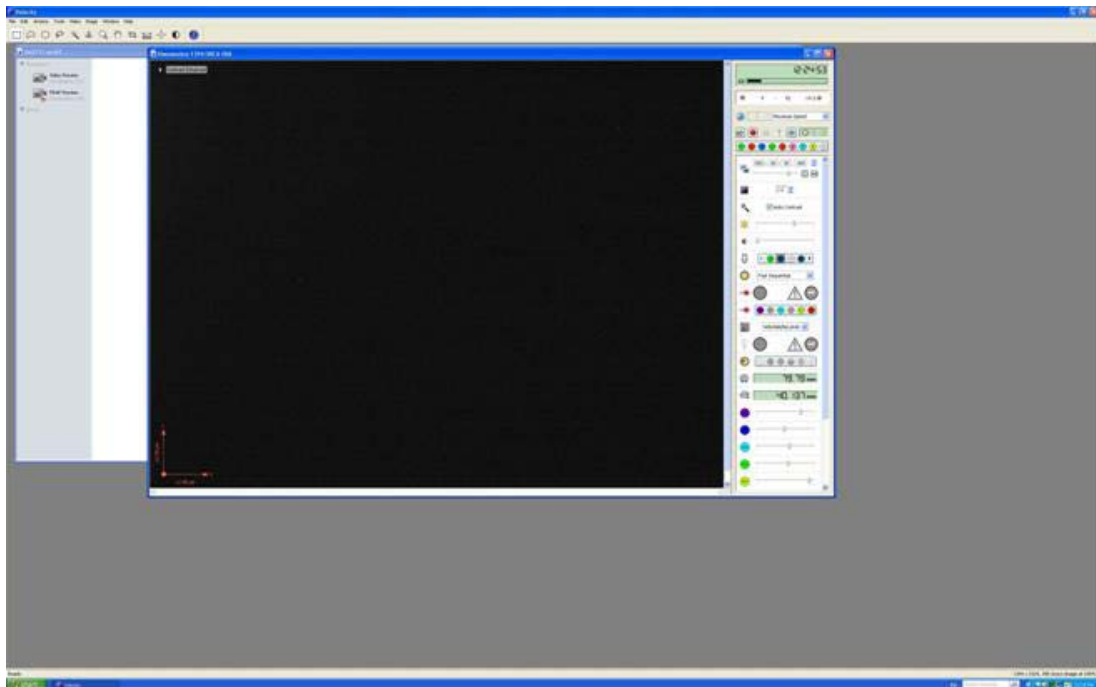
(4) **Click** the icon in the Region A to create a new library for a new experiment, **assign** the new library (which will include all your experimental datasets) located in your own preferred folder:



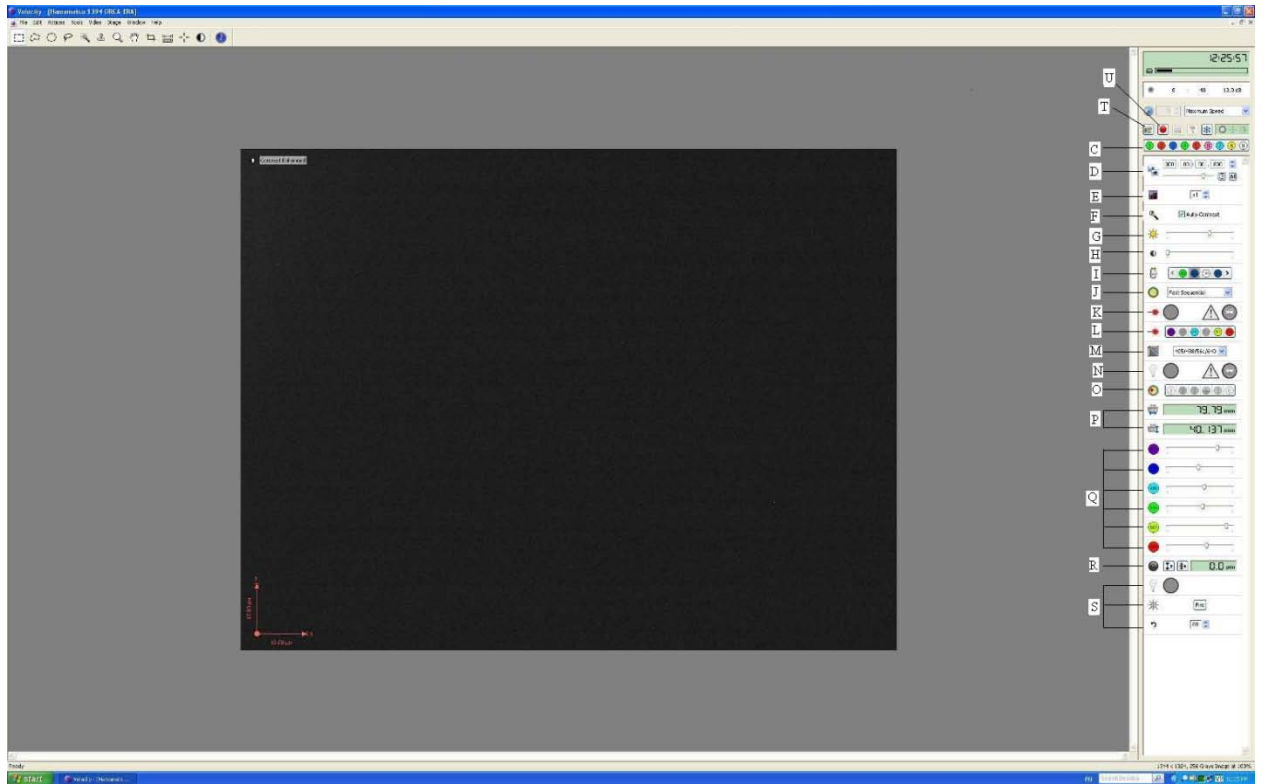
(5) Next **click** the icon in Region B to open the **Video Preview** window:



(6) **Video Preview** window is activated shown below:



(7) **Control icons** on the video preview window:



- C:** Channel selections: right-click each channel icon you will see the corresponding probe
- D:** Exposure time: longer exposure time will increase the signal intensity
- E:** Bin number: merge neighbouring pixels
- F:** Auto-contrast: auto-adjust the image contrast
- G:** Gain: signal amplification
- H:** Offset: background control
- I:** Objective: objective lens selection
- J:** Work mode: the system has two work mode (fast sequential & emission discrimination)
- K:** Laser shutter control: control the shutter for the laser beam illumination
- L:** Laser selection: control the different laser source
- M:** Dichroic mirror selection: dichroic mirror selections for best performance
- N:** Bright-field light control shutter: control the shutter for the bright-field light source
- O:** Emission filter: emission filter control on the signal receiving side
- P:** X-Y coordinates: the absolute X-Y positions of the stage center
- Q:** Laser intensity control: control the excitation power for specific laser source
- R:** Focus control: control the focal point along Z direction
- S:** Photo-kinetic control: **not used in regular acquisition procedure**
- T:** Single frame acquisition: acquire a single frame image
- U:** Multiple- image acquisition: acquire image sequences or multi-channel image

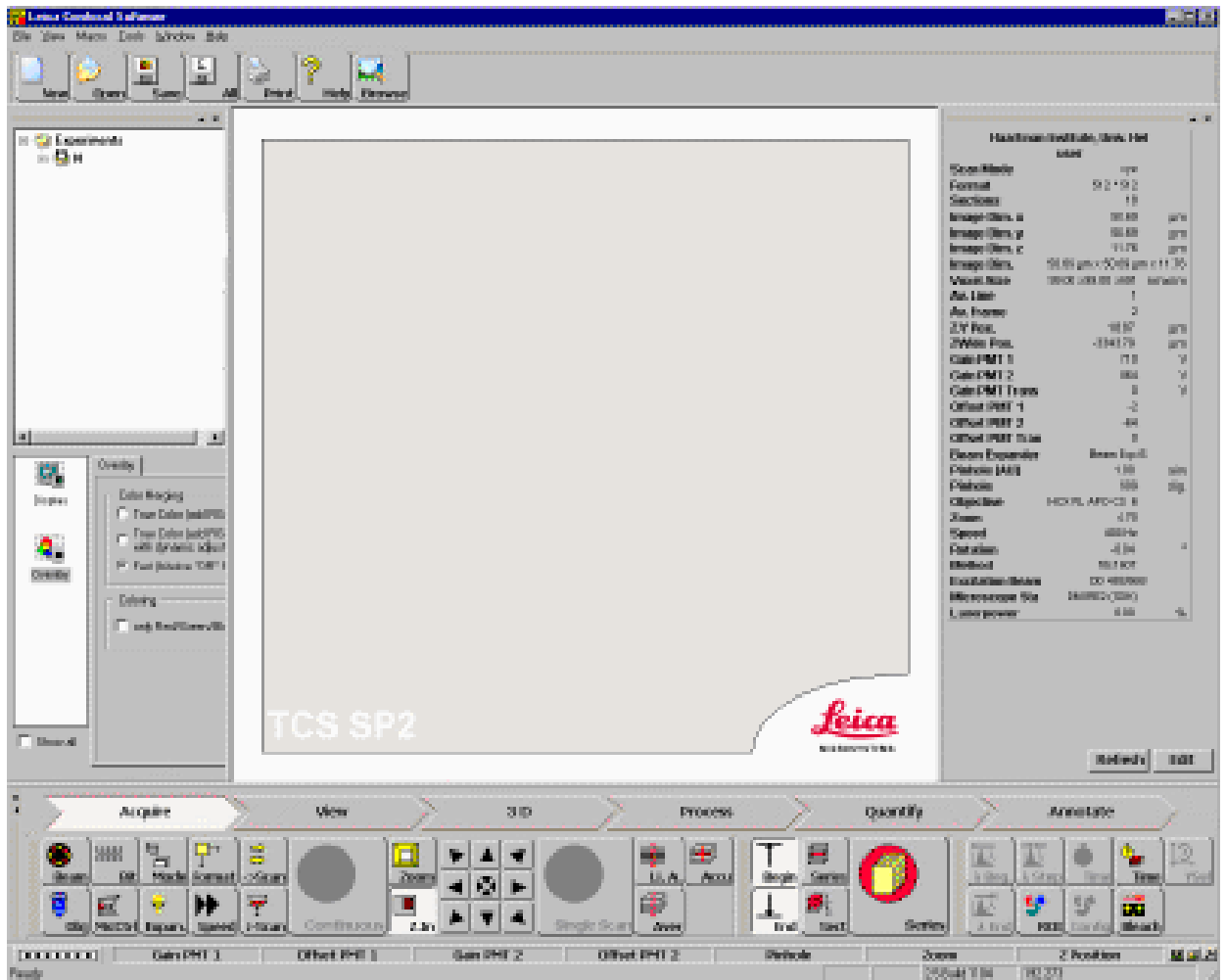
- 8) If Leica SP2 confocal microscope is used for imaging experiment, the remote users can follow the instructions below:

Leica Software Operations

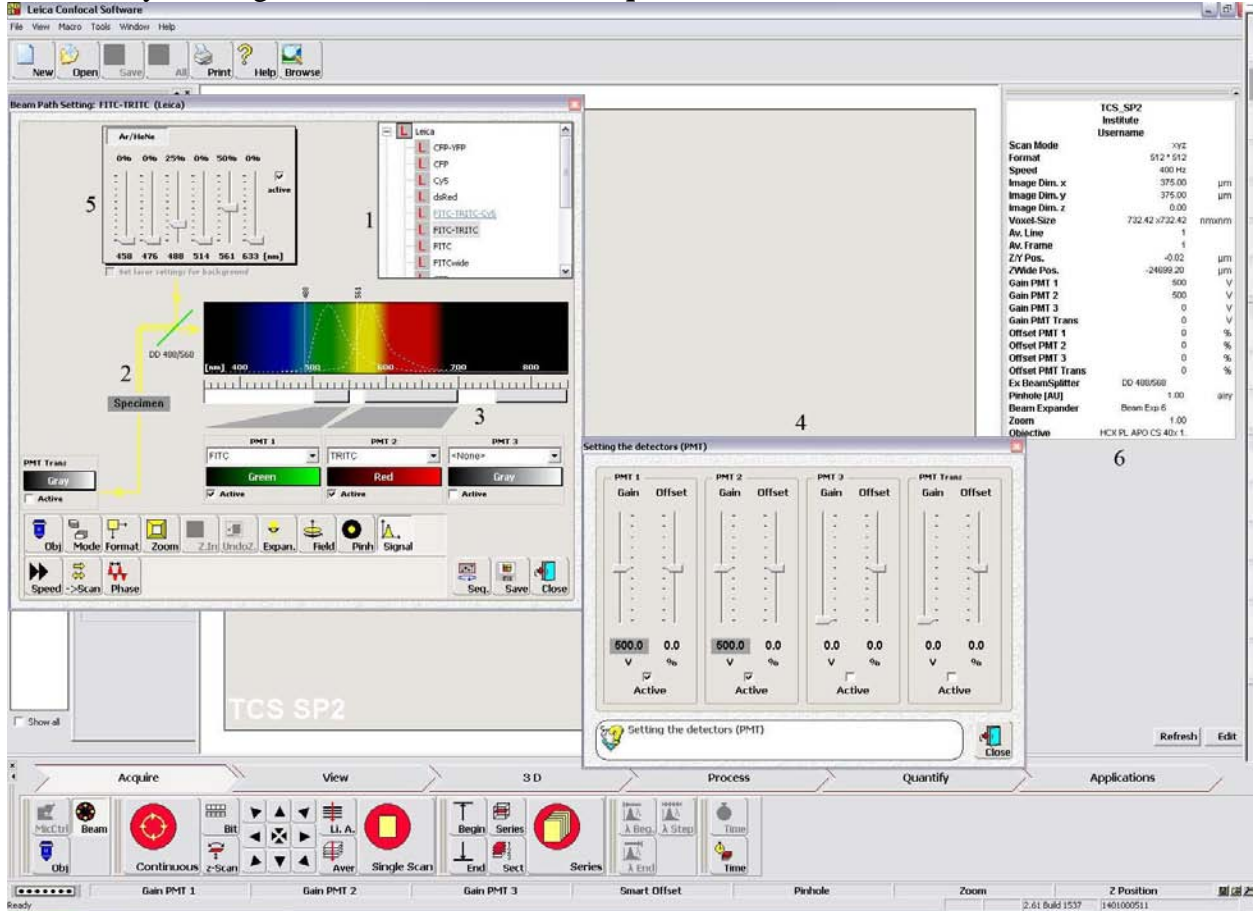


- (1) Start the **Leica** software by double-click the following icon on the desktop:

- (2) Wait for one minute for system initialization, then the following screen will appear:



- (3) To set up the system parameters, the beam path setting window (shown below) can be activated by clicking the **Beam** button in the **Acquire** tab.



- 1: Select proper dye or dye combinations to correctly set up the optical components.
- 2: Use this schematic drawing to make sure that the correct optical components are applied for the experiment.
- 3: Use these PMT spectral controls to modify the receiving band of the PMTs to match your application need.
- 4: This PMT gain/offset control menu is activated by clicking the **Signal** button in the Beam Path Setting window. Use these controls to adjust the PMT gain and offset in order to obtain the best image quality. **Please note: the PMT gain should be less than 750.**
- 5: Use these laser controls to modify the laser emission intensity for obtaining higher signal output.
- 6: All the current system parameters can be viewed in this table.

- (4) For imaging purpose, there are three scanning mode:
- Button “Continuous”: live image for the sample for real-time parameter adjustment
 - Button “Single Scan”: single layer scan for defined channels
 - Button “Series”: scanning multiple layers
- (5) After scanning, save the data to assigned folder on the hard drive.