

## nPOD Spectrum and Aperio Tutorial

After you login, you will see a listing of Cases, Specimens, and Digital slides (Figure 1).

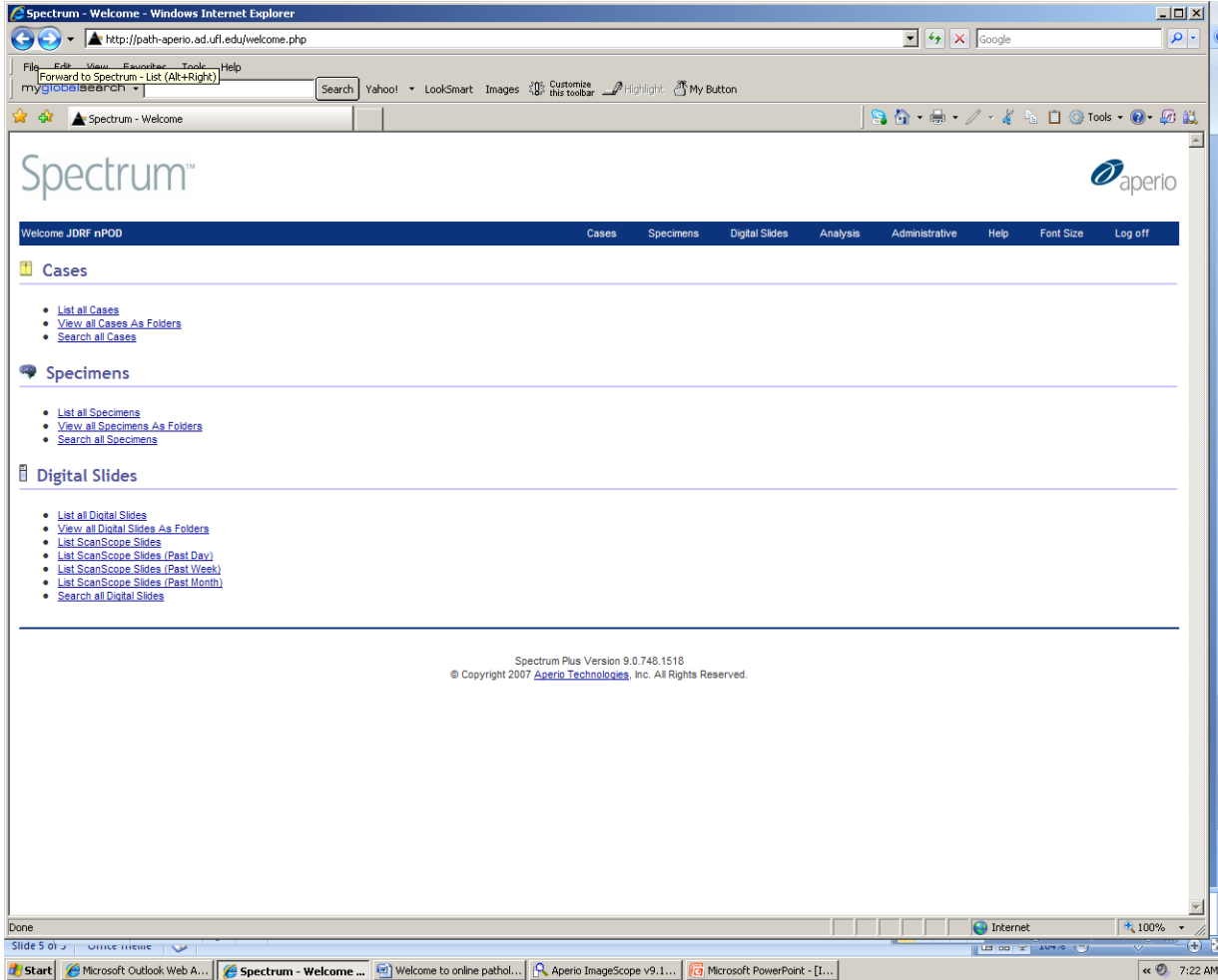


Figure 1. Spectrum Main Screen.

To get started, go to Cases, and choose List all cases. Note that all nPOD Cases are shown with nPOD Case ID and donor demographics. Open a Case by clicking on the "yellow book" icon. The Case's Specimens will be listed in the lower panel (Figure 2). Note: If there is only one Specimen, the Digital Slides will also be listed.

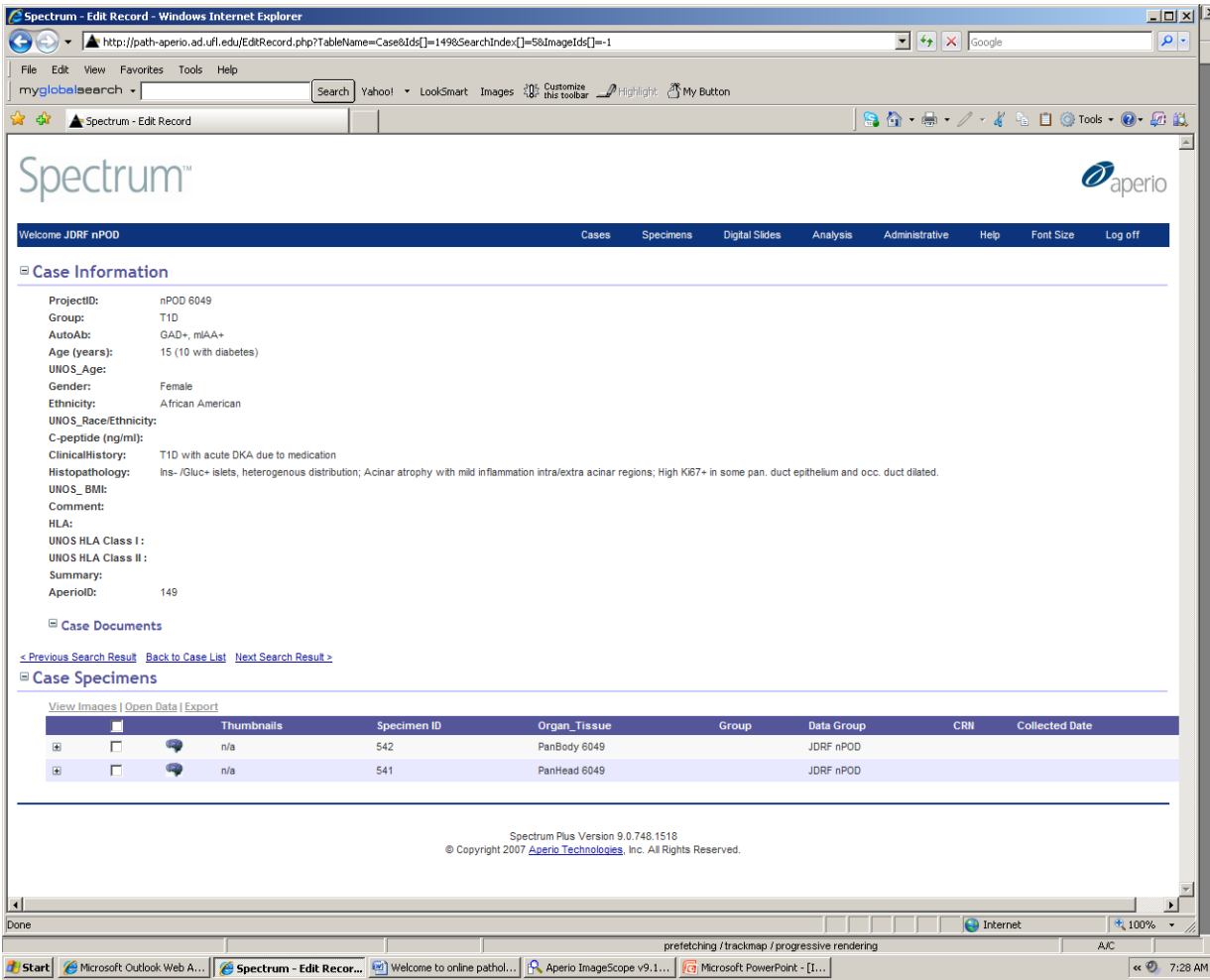


Figure 2. Case main screen with information and Specimens.

Click on the blue "brain" icon or "+" to open a Specimen.

To open an individual image, click on the vertical slide icon next to the open box or on the image (Figure 3). To open several images at one time, click on each box then choose "View Images" on the top line. Opening images will automatically launch ImageScope (when installed) or the default image viewing program.

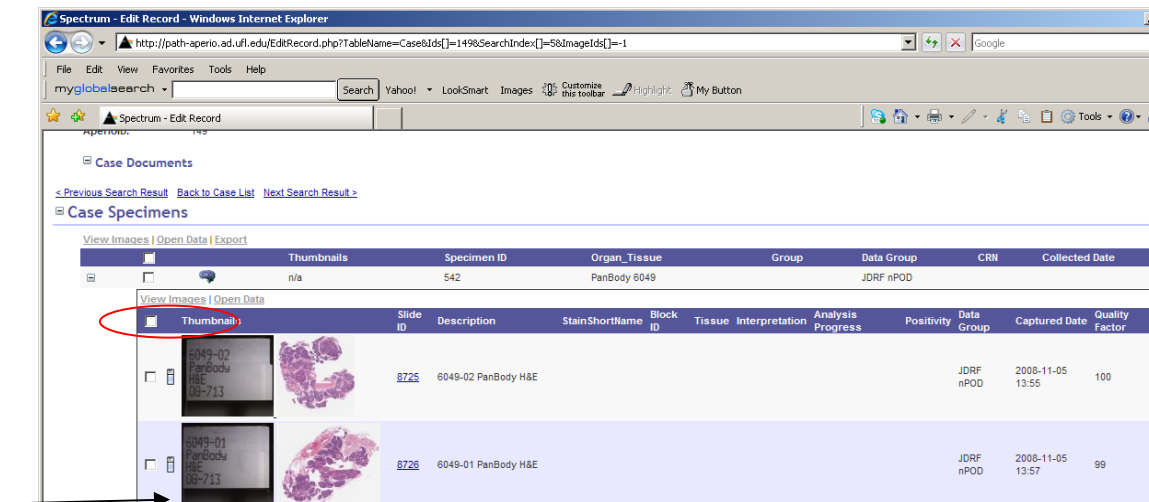


Figure 3. Opened Slide Images.

To open an individual image, click on the vertical slide icon (arrow) next to the open box or on the slide image (Figure 3). To open several images, click on each image's open box then choose "View Images" (red circle).

Opening images will automatically launch ImageScope or the default image viewing program.

## 5. Image Browsing With ImageScope

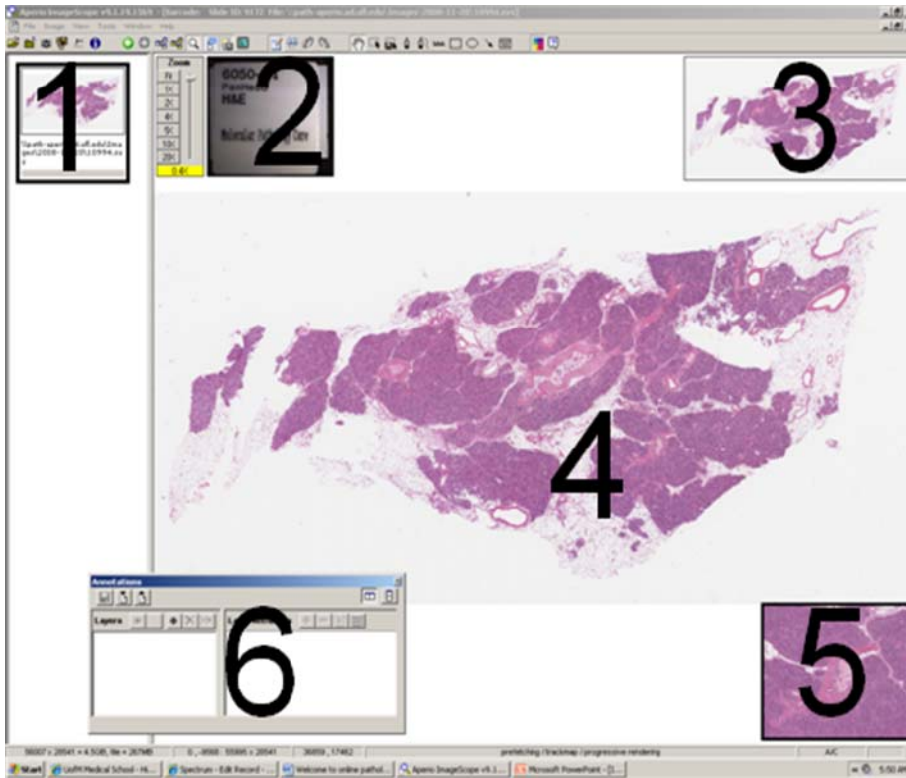


Figure 4. ImageScope slide main view.

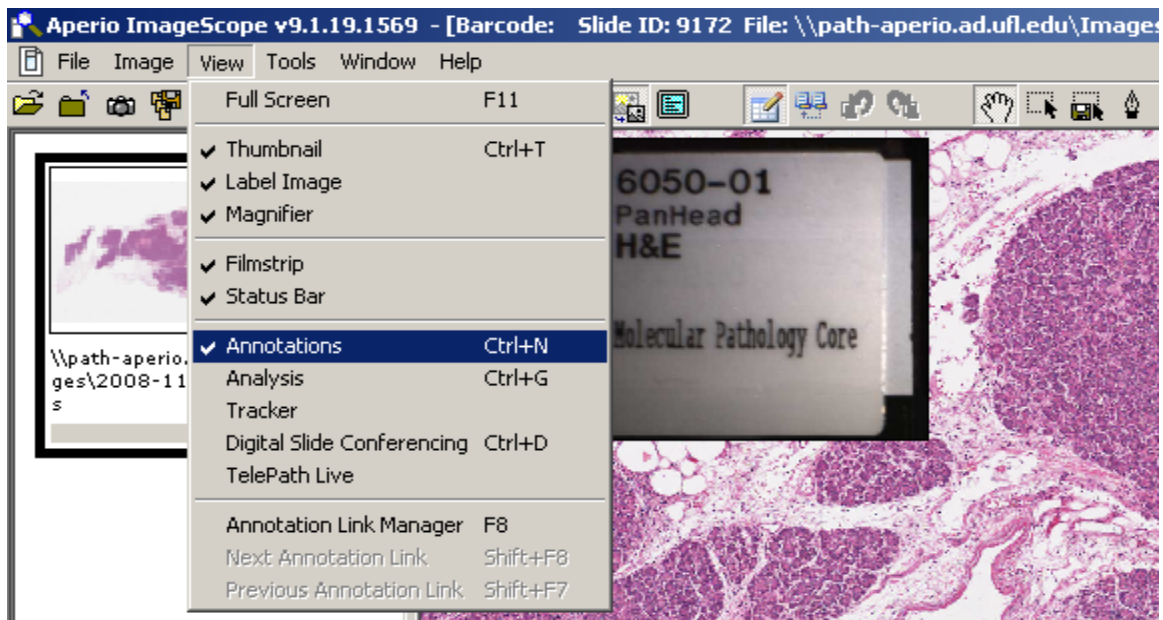


Figure 5. View menu. Click on items to open (checked) or close.



Figure 6. Toolbars. Depressed are active.

## Figure 1 Key:

### 1. Filmstrip:

Panel on the left shows all opened images. Move between images by clicking on the filmstrip thumbnail.

### 2. Magnification (Zoom slider) and Slide label thumbnail:

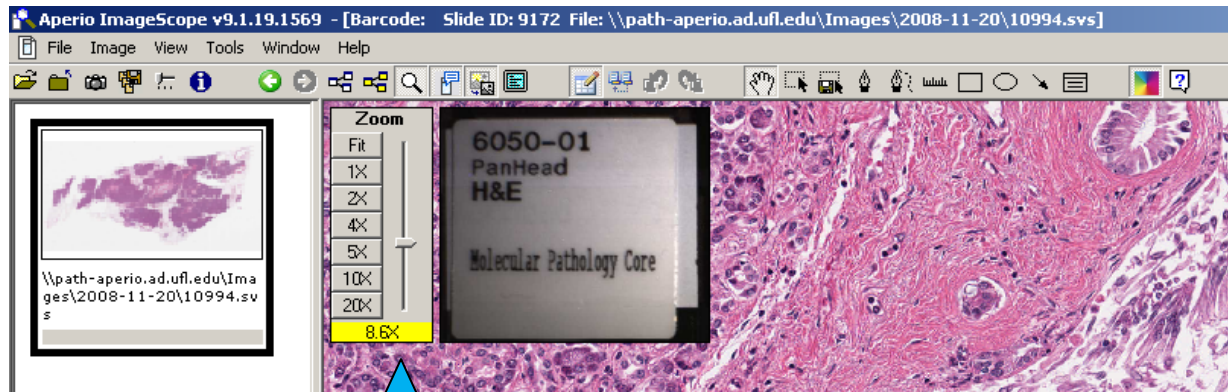


Figure 7. Image Zoom Slider.

There are 3 ways to change the image magnification (Figure 7):

1. Click on a slider button to jump to that particular objective power.
2. Move the slider bar with your mouse (blue arrow points to magnification setting in yellow).
3. Use the mouse scroll wheel when mouse is over the image.

### 3. Image thumbnail (image macro):

This inset outlines the entire scanned region and outlines the current image viewing area with a red box. Move around the slide by dragging the red box with your mouse.

### 4. Image:

As you mouse over the image, you'll see that the pointer is a hand that allows you to grab the image and move it in any direction.

### 5. Magnifier:

This inset will show a small magnified (usually 2x) region directly under the mouse. Useful for examining nuclei but otherwise creates motion sickness in many so is usually closed.

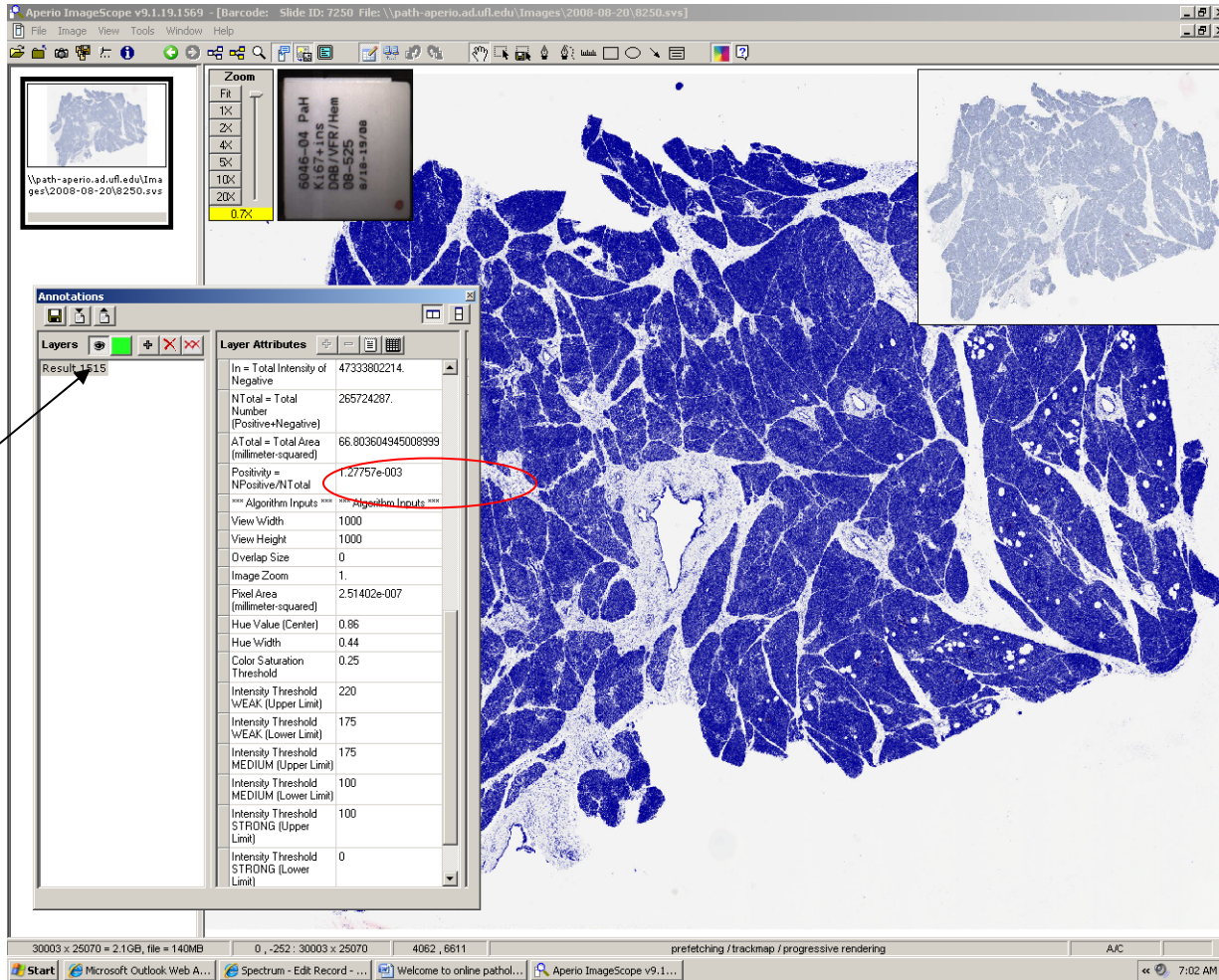
### 6. Annotations

This inset is also often closed and is opened by View/Annotations window (Figure 5). It is possible to generate several layers of annotations. To make an annotation, find a region of interest and select an annotation tool from the toolbar (Figure 6). After the annotation is made, you can enter a brief description by clicking on the blue highlighted "Description" box. If the annotation is not placed exactly to your liking you CANNOT move it. Instead you'll have to delete it by clicking on the "Delete Region" button (X) and start over by the re-selecting the annotation tool.

When image analysis has been completed on an IHC stained slide, this will produce a blue overlay (markup image) over the image (Figure 8). Turn off by going to View/Annotations/Layers/ "eyeball" icon- click on the icon to not show the layer (arrow).

To view the results, expand the Annotations window as needed. Scroll to "Positivity- Number (N) Positive/N Total (red oval)". Fractional area (%) is Positivity X 100.


The newest version of Spectrum Plus is expected for release in early 2009 and will allow images to be opened without showing annotation layers.



**Figure 8. Image analysis for fractional insulin area. To remove the "blue" overlay, click on the "eyeball" (arrow) in Annotations inset. View results by scrolling to "Positivity".**

#### 7. Other Toolbar icons (Figure 6):

**Camera:** Take a snapshot- Go to the region of interest image. The region captured includes the entire visible image so you can alter photographed area by changing the image window. Click on the camera icon and save the file as either jpeg or TIFF.

**Synchronize images:** Open both an H&E and IHC image(s) and sync them together. This is one of the best features in ImageScope. Open images (Window/TileVertical or Horizontal) then align them at low magnification. Click the Manual Synchronize icon .

See Help icon for many other tools available in ImageScope.