

**1.** Open the **Macro View**, **Image Organizer**, and **Serial Section Manager** tools: Display the "Workspace" ribbon and click the corresponding buttons.



**2.** Open your image stack: Click the **Open Image File** button (top left toolbar) and select a .jpx file.



**3.** In the **Image scaling** window, check **Create sections for this stack** to create one section per image plane.

| Distance between images (s                       | ize of voxel in Z): 90.00 µm  |
|--|---|
| Distance Type  Focal Distance  Physical Distance | Correction Factor for Physical Distance<br>Air<br>Oil<br>Water<br>Glycerin<br>Other   |
| Fields containing data retriev                   | tion Factor = Focal Distance<br>ved from the image file are disabled<br>nodified by checking the override box<br>entered by the user. |

- **4.** The sections you just created are displayed in the **Serial Section Manager**. To navigate to a section, click its name. The section displayed is highlighted in blue. To navigate to the previous (next) section, use PageUp (PageDown) on your keyboard.
- 5. Display the list of anatomical structures that you'll be using for annotating: In the **Trace** ribbon bar, click **Contour Selection**.







6. Outline a section: Select a section in the Serial Section Manager then click Outline sections in the Trace ribbon bar.



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Section Na..

Section 18

Section 19

Section 20

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Data Present

Brain MakerSec.

Serial Section Manager

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Section Z

-1530.00

-1620.00

-1710.00

| NOTE: The note in the <b>Data present</b> column   |
|--|
| indicates that the section has been outlined. Data |
| present will also show annotations.                |

- **7.** Prepare to annotate the section.
  - a. Navigate quickly to an area of interest: In the **Macro View** window, click an area of interest in the image thumbnail.

- b. Zoom in as needed: Display the **Image** ribbon bar, click the **Zoom in** button, then draw a marquee in the image.
- c. Set up the **AutoMove** tool: Display the **Workspace** ribbon and click the corresponding button. A dashed rectangle appears over the image; it represents a field of view. This tool will prove useful once you start tracing a structure.
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  Z meter
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  Acquire
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- **8.** Annotate the section.
  - a. Select an anatomical structure from the **Contour selection** list.

To select the next structure in the list, press **Alt-N**. To select the previous structure in the list, press **Alt-B**.



- Posteromedial commissure of mitral valve (9374)
- Medial commissure of mitral valve (9891)







## **Tissue Mapper: Basic steps**

- b. Start tracing the structure by clicking along the structure. When you click beyond the bounds of the field of view, the image automatically re-centers to the last point you clicked (this is because you set up **AutoMove** in step 7).
- c. When you're done with the annotation, right-click and select **Close contour** or **End open** contour.
- 9. Annotate another section.
  - a. Move to the next section.
  - b. Repeat steps 7-8.
  - c. To see what was traced in the section above or below, make sure that Show current section is selected and click the **Display flanking sections** button in the Serial Section Manager. Previous annotations appear in gray.











- **10.** Edit the annotation.
  - a. In the Trace ribbon, click the Select objects button.
  - b. Click the annotation (i.e., the line) to select it. You will see small white squares along the line.
  - c. Click and drag points (white squares) to refine the annotation.

- **11.** Save your work.
  - a. Click the **Save** button in the top left corner.
  - b. Save as a data file (.dat) to save the annotations along with the image.
- **12.** Continue working on your annotations the next day: Open the data file you saved the previous day.
  - a. Click the **Open** button in the top left corner.
  - b. Select the appropriate data file. Both image and annotations are displayed (in other words, you don't need to open the image stack file).

Tissue Mapper will remember to display the Macro View, Image Organizer, and Serial Section Manager tools.

