**Instructions for Launching and Using the IFCB ROI Viewer**

**System Requirements**

* **Anaconda Distribution** (https://www.anaconda.com/download)
* **Python Environment** named ifcb\_roi\_viewer (set up with required packages – instructions for installing these included below)

| **Package** | **Purpose** |
| --- | --- |
| streamlit | Creates the interactive web app UI |
| numpy | Handles numerical operations and array manipulations |
| pandas | Parses and manages .adc data and metadata tables |
| Pillow (PIL) | Opens and displays .roi image data |
| matplotlib | Generates summary plots (used in the analysis tab) |
| seaborn | Enhances plot styling (for barplots, etc.) |
| os (builtin) | File and path handling |
| math (builtin) / builtins | Basic numeric and utility functions (implicitly used via NumPy, etc.) |

* The file **ifcb\_roi\_viewer\_analysis.py** saved to **Desktop**
* Folder(s) containing IFCB .roi, .adc, and .hdr files for analysis

**Step-by-Step Instructions**

**1. Open Anaconda Navigator (this is automatically included with the Anaconda Distribution software)**

* Launch **Anaconda Navigator** from your Start Menu or desktop shortcut.

**2. Launch the Terminal**

* In the left-hand panel, click on **Environments**.
* Select the environment named **ifcb\_roi\_viewer**.
* On the right-hand side, click the **▶ Play** button and choose **“Open Terminal”** from the dropdown menu.

### ****Environment Setup (Only do this if you do NOT already have an environment called ifcb\_roi\_viewer)****

* To create a new environment click the **Create** button and name the new environment **ifcb\_roi\_viewer.**
* On the right-hand side, click the **▶ Play** button and choose **“Open Terminal”** from the dropdown menu
* In the ifcb\_roi\_viewer environment terminal enter the following:

pip install streamlit numpy pandas Pillow matplotlib seaborn

**3. Navigate to the ifcb\_roi\_viewer folder on the Desktop**

* In the terminal window that opens, type the following command:

cd Desktop

* Press **Enter**.

cd ifcb\_roi\_viewer

* Press **Enter**.

**4. Launch the Viewer App**

* Run the following command to start the Streamlit app:

streamlit run ifcb\_roi\_viewer.py

* Wait a few seconds for the app to compile.

**Using the Application**

Once the app launches, your default web browser will open a page (usually at <http://localhost:8501>).

**Tab 1: ROI Viewer**

* Enter the full path to the folder containing your .roi, .adc, and .hdr files (the default folder is set to (r”C:\Users\IFCBUser\Desktop\Tiamat\_data\raw\_ALL”).
* Optionally, search for a specific filename in the search bar below.
* Navigate between files using the **First, Previous, Next,** and **Last** buttons.
* Set how many ROI images you want to see per page.
* View individual ROI images with metadata (Time, PeakA, PeakB, Size).
* Metadata from the associated .hdr file will be displayed in an expandable section.

**Tab 2: Analysis (In-Development)**

* ~~Input a folder path containing .hdr and .adc files.~~
* ~~(Optional) Filter analysis by filename or Station ID.~~
* ~~Automatically calculates and displays size bin counts for~~ **~~Pico~~**~~,~~ **~~Nano~~**~~, and~~ **~~Micro~~** ~~particles based on equivalent diameter.~~
* ~~Results are visualized using bar plots and presented in an interactive table.~~