Neurophotometrics.0.6.1 Update

Updating

Neurophotometrics.0.6.1 is compatible with versions of Bonsai 2.7.2 or newer. Now is a great time to update to the latest stable version of Bonsai. Navigate to the Bonsai [installation page](https://bonsai-rx.org/docs/articles/installation.html) (https://bonsai-rx.org/docs/articles/installation.html), then download and install the *.exe* installer.

Once installed, open Bonsai and navigate to the "Manage Packages" window. With the release of Bonsai.2.8.0, many of the core Bonsai packages were also updated. The easiest and safest way to update these core packages is to navigate to the "Updates" tab, select "Bonsai Packages" as the "Package Source", and only update the "Bonsai - Starter Pack" package.
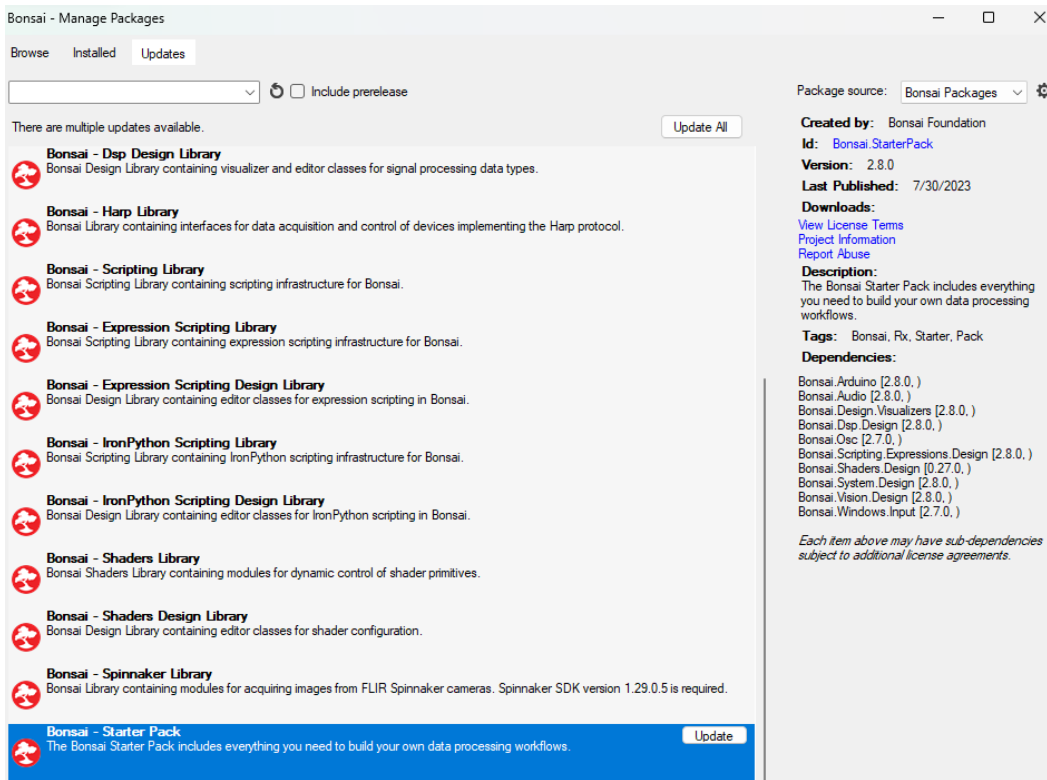
Note: Do not enable the "Include Prerelease" option and do not change the "Package Source" to "All" or "nuget.org". Also, do not update the "Bonsai - Harp Library" package. Neurophotometrics.0.6.1 can only use older versions of the harp package.

With the "Bonsai - Starter Pack" package updated, change the "Package Source" to "Community Packages". You should now see available updates to the "Neurophotometrics" and "Neurophotometrics.Design" packages. Update the "Neurophotometrics.Design" package which will automatically update the "Neurophotometrics" package.
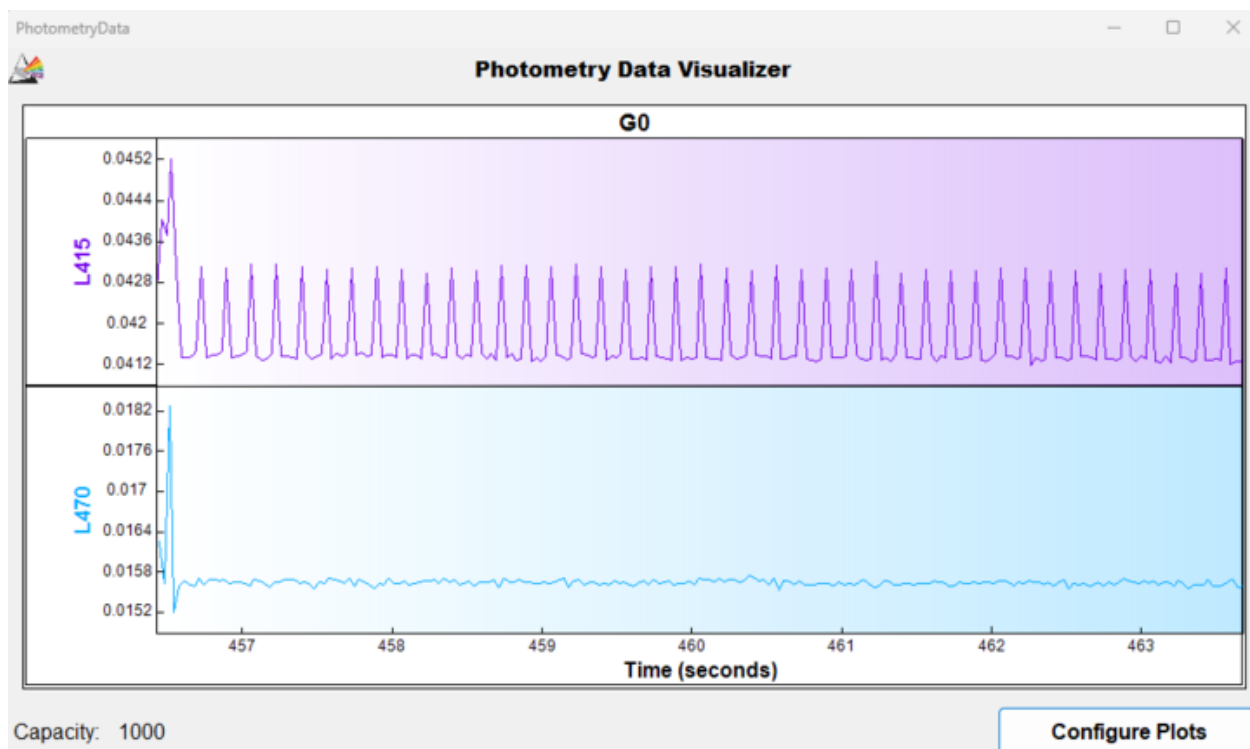
Neurophotometrics.0.6.1

Bug Fix:

Neurophotometrics.0.6.0 introduced a bug that would occasionally introduce a periodic artifact in the activity data. This artifact was of the form of spikes in the activity data. Oftentimes this artifact was isolated to a single ROI and occurred every 2*N frames, so it would appear to be isolated to a single signal when only having two LEDs in a trigger sequence.


This bug had to do with the AutoCrop feature and so slightly moving an ROI could introduce or fix the issue. Neurophotometrics.0.6.1 has an updated AutoCrop feature that prevents this artifact from occurring.

WithLatestTimestamp Feature:

Neurophotometrics.0.6.1 has reintroduced the "WithLatestTimestamp" feature. This feature was temporarily removed in Neurophotometrics.0.6.0 due to some artifacts it could introduce. In Neurophotometrics.0.6.1, this feature has been updated and improved. Now, V2 users can use this feature to timestamp external data streams with

a precision of 1ms. This precision is no longer dependent on the frame rate of the FP3002 system like in previous versions.

To use this feature, connect the new "Publish Timestamp" node directly after the "FP3002" node, in parallel to the "Photometry Data" node.
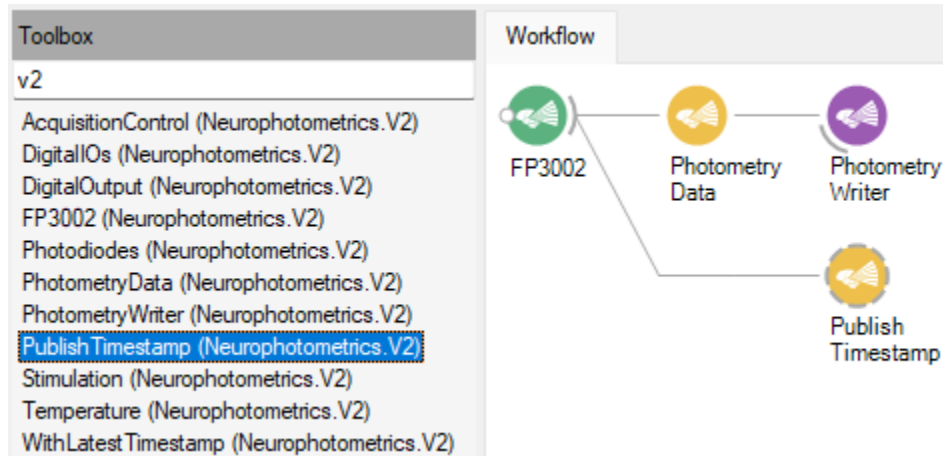
Then, connect the updated "WithLatestTimestamp" node to the data stream to be synchronized with the photometry data, followed by a "CsvWriter" node. In the example below, we synchronize keystroke data using the system's clock with a precision of 1ms.