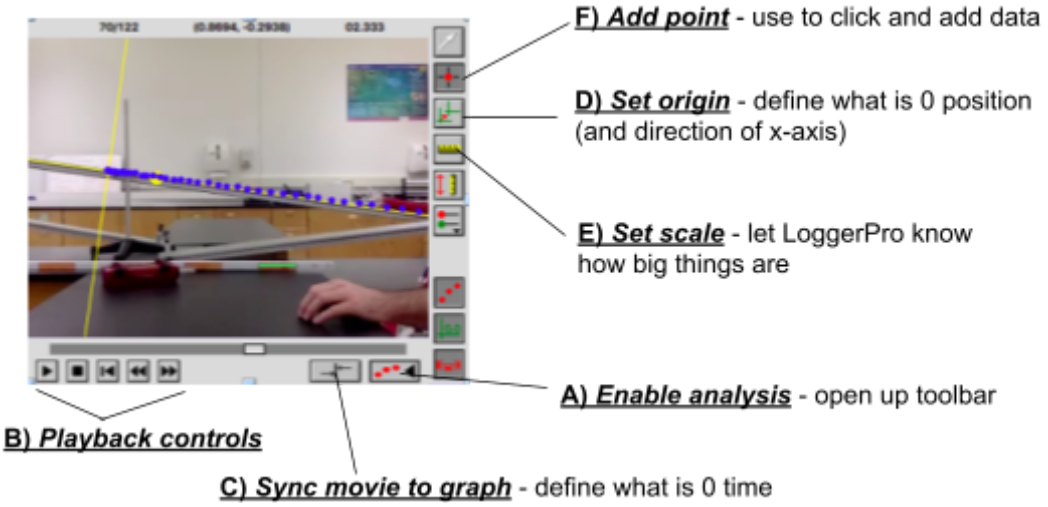
LoggerPro Video Analysis



1. Add a video.	Go to the Insert menu and select either type of video: a) "Movie…" to use an existing video. Browse to the desired file and select "Open" OR b) "Video Capture…" to record a new video using your camera. In the window, click "Start Video Capture" button to start recording and "Stop Video Capture" to stop.
2. Show tools.	Click ***Enable analysis (A)***  on the lower right side of the window.
3. Sync up the time.	Use ***Playback controls (B)***  allow you to play, stop, rewind, and increment next/previous frame. Navigate to the frame where the motion FIRST STARTS TO BEGIN. At this point, you can use the ***Sync movie to graph (C)***  button and the **"Graph time:" as 0 s**. Leave the "Movie time" where it is.
4. Set the origin.	We want to **set the release point as the origin** (x=0). When timed to release, use the ***Set origin (D)***  tool to click a trackable part of the object. That sets that position as x=0.
5. Rotate the axes.	For an object moving only in one direction, we want that to be the x-direction. Depending on the camera angle, it may not be directly left and right. Click and rotate the yellow circle on the x-axis to **rotate the axes** so they align with the path of motion.
6. Set the scale.	Using ***Set scale (E)***  , click and drag along a known length of an object. Enter in the box the actual size of the object used.
7. Add data points.	Find a part of the cart that is easily visible and trackable. Using the ***Add points (F)***  tool, click on that point to **add a data point** and advance the video by one frame. **Repeat clicking until data collection is complete.** (When object t is touched to stop or reaches the end).
8. Add best fit lines.	In the window's shortcut bar, use the ***Curve fit tool***  to add a best fit line (linear, quadratic, inverse, etc). To analyze motion in the x-direction, when prompted select "VideoAnalysis|X". Select the desired model in the window under "general equation". Click "test fit" to get a quick visual to make sure the model fits the data, then select "OK." If you know the fit is linear, you can use the **linear fit tool**  to save some steps.