Guided Tour 2 - Data Analysis

In this tour we will concentrate on the data analysis features of Igor Pro. We will generate synthetic data and then manipulate it using sorting and curve fitting.

Starting Guided Tour 2

1. **If Igor is already running, activate it and choose File→New Experiment.**

   In this case, skip to step 2.

2. **Double-click your Igor64 alias or shortcut.**

   Instructions for creating this alias or shortcut can be found under **Creating an Igor64 Alias or Shortcut** on page I-13.

   On Windows, you an also launch Igor64 using the Start menu.

3. **Choose Misc→Preferences Off.**

   Turning preferences off ensures that the tour works the same for everyone.

Creating Synthetic Data

We need something to analyze, so we generate some random X values and create some Y data using a math function.

1. **Type the following in the command line and then press Return or Enter:**

   ```
   SetRandomSeed 0.1
   ```

   This initializes the random number generator so you will get the same results as this guided tour.

2. **Type the following in the command line and then press Return or Enter:**

   ```
   Make/N=100 fakeX = enoise(5)+5,fakeY
   ```

   This generates two 100 point waves and fills fakeX with evenly distributed random values ranging from 0 to 10.

3. **Execute this in the same way:**

   ```
   fakeY = exp(-(fakeX-4)^2)+gnoise(0.1)
   ```

   This generates a Gaussian peak centered at 4.

4. **Choose the Windows→New Graph menu item.**
5. **If you see a button labeled Fewer Choices, click it.**
6. **In the Y Waves list, select "fakeY".**
7. **In the X Wave list, select "fakeX".**
8. **Click Do It.**

   The graph is a rat's nest of lines because the X values are not sorted.

9. **Double-click the red trace.**

   The Modify Trace Appearance dialog appears.

10. **From the Mode pop-up choose Markers.**
11. **From the Markers pop-up menu choose the open circle.**