1046-O1-1876   **Eugene Belogay*** (`ebelogay@fau.edu`), Wilkes Honors College, FAU, 5353 Parkside Drive,
Jupiter, FL 33458. *How Fit is Your Model? Interactive Data Fitting in Excel.* Preliminary report.

Experimental data rarely fit theoretical models perfectly. Constants in the laws of nature do not miraculously appear on *Wikipedia* —- they are often estimated by finding the unknown parameters in the law that best fit the experimental data.

Most computational tools available to science students today can compute a best fit to a set of measurements so quickly and easily that few students know or care what is really going on "inside the box." This is a pity, as scientists often gain valuable insight into a problem only by playing out various what-if scenarios. An easy way to improve one's "gut feeling" is to observe how the model curve reacts to changes in the model parameters. Of course, the calculus of partial derivatives can provide analytical answers, but they rarely have the immediate impact of watching a curve wiggle on the computer screen with every twitch of the mouse.

Our interactive data-fitting mathlet (or is it mathsheet?) was inspired by the excellent applets from The Shodor Foundation (www.shodor.org) and is implemented as a single Excel spreadsheet without any VBA code, so instructors can easily customize it without any special programming knowledge. Although commercial software by Microsoft, the cross-platform Excel is abundant on campus. (Received September 16, 2008)

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