1067-Y5-2085 **Jeff Knisley*** (`knisleyj@etsu.edu`), Box 70663, Department of Mathematics, East Tennessee State University, Johnson City, TN 3714-0663. *Exploring Biomedical Signals with the Maple Wavelets Package.*

Students tend to be familiar with ElectroCardiograms (Ekg's) and ElectroEncephalograms (EEG's) from popular culture, and there is a wealth of such data freely available. Less familiar but also readily available are signals related to circadian rhythms and other applications in biology and ecology. Moreover, questions about Ekg's, EEG's, and other biological/biomedical phenomena often focus on time and scale, making wavelet-based approaches especially attractive. As we will show in this presentation, many of these signals are amenable to investigation with the wavelets package in Maple, thus making such applications especially suitable as undergraduate research opportunities for students already familiar with Maple from previous courses. (Received September 22, 2010)