normalization of these histograms together in a three-dimensional space is the first step in creating a bifurcation plot. This three-dimensional graph can be flattened by assigning a color scale to the normalized peak height, red for one and blue for zero. The result is a two-dimensional, color-coded plot showing voltage extrema as can be seen in Fig. 4.1. Experimental data was acquired from 10.5 mA to 23.5 mA in increments of .5 mA with φ biased at $\frac{3\pi}{4}$.

Figure 4.1: This is a experimentally-obtained bifurcation diagram with panels A-F showing voltage-time plots for bifurcation points and chaotic dynamics. Note that panels A and B have vertical voltage scales of 1 mV per division, where as panels C-F are on the scale of 50 mV per division. The lines indicate where each of the voltage-time plots occurred in the bifurcation diagram. Panel B shows the transition at the $\lambda = 11$ mA bifurcation point from fixed-point to sinusoid, which evolves into square waves, as seen in panel C. A non-repeating signal with multiple voltage extrema, indicative of chaos is seen in panel F.

Fig. 4.1 shows a single steady state for values of $\lambda < 11$ mA and a two period