**Figure X. Kinematic analyses show a progression in reaching function from inhibitory through control to excitatory animals.** Still images from high speed video of control (A) and excitatory (B) animals reaching through a slit in a plexiglass enclosure to a pellet food reward (at right). Treatment groups are denoted by color; inhibitory (green), control (blue), and excitatory (red). Shaded ribbons denote one standard deviation (**D, G**). The coordinate system is defined with +x to right and +y upwards, with origin (x=0,y=0) at the left edge of the wall at the bottom of the slit opening (**red arrows**). The x-coordinate of the wrist versus time for individual reaching events (**C**) and the mean and standard deviation across these reaching events grouped by treatment (**D**). Box plot of maximum coordinate attained (at time=0.4s) is shown in (**E**). Plots (**F**) and (**G**) and (**H**) show similar plots for the y-coordinate. Excitatory animals can reach up and through the opening (**B-E**); control and inhibitory animals are unable to achieve required height and reach (**A, C-H**), only rarely achieving the required height (**F**). Maximum x (**E**) and y (**H**) coordinates achieved are significantly different against treatment (Kruskal-Wallis test; p=0.001 for both coordinates), due to differences between excitatory and control (pairwise Wilcoxon Rank Sum tests; p<0.001, both coordinates, Benjamini–Hochberg correction). Sample sizes: n=11 trials from 2 rats (excitatory), n=7 trials from 1 rat (control), and n=1 trial from 1 rat (inhibitory).