

1116-S1-1871 **Michelle L Ghrist*** (michelle.ghrist@usafa.edu), HQ USAFA/DFMS, 2354 Fairchild Hall, Suite 6D2, USAF Academy, CO 80840. *How High Can You Jump? Modeling Jumping via Differential Equations*. Preliminary report.

I discuss an ODE's project that asks students to model the motion of a person jumping vertically. Students are asked to develop and analyze a basic model and then iteratively refine that model to consider air resistance and other factors. Some initial models can be solved analytically, but more advanced models require approximation via numerical methods. Students will gain experience working with actual data and use that data to estimate parameters for two different kinds of vertical jumps. Development of this project was supported in part by SIMIODE. (Received September 21, 2015)