1125-VM-1883 **Arielle Gaudiello*** (`arielle@ucf.edu`), 4393 Andromeda Loop N, Orlando, FL 32816, and **Zhisheng Shuai** (`zhisheng.shuai@ucf.edu`), 4393 Andromeda Loop N, Orlando, FL 32816. *A Mathematical Model for the Human Papillomavirus (HPV) with a Case Study in Japan.* Preliminary report.

The human papillomavirus (HPV) is a sexually transmitted infection prominent among young adults across the world. The self-clearing infection is a predecessor to numerous cancerous cells, ranging from cervical to penile to esophageal cancers. We develop an ordinary differential equation model, where the total population is divided into seven classes: juveniles ($J_k(t)$), susceptibles, ($S_k(t)$), infectious ($I_k(t)$), with $k = f, m$ for females and males respectively, and vaccinated females ($V_f(t)$). We investigate the existence and stability of the disease-free equilibrium and endemic equilibrium. We discuss applications to ongoing issues in Japan, where government-based vaccination programs have terminated and vaccination rates have plummeted. (Received September 19, 2016)