

A mathematical model of human papillomavirus (HPV) and cervical cancer with application

Najat Ziyadi

In this talk, a mathematical model of human papillomavirus (HPV) and cervical cancer with application will be introduced. The mathematical model of human papillomavirus (HPV) and cervical cancer is presented as a system of ordinary differential equations. The basic reproduction number is computed using the next generation method. Local and global sensitivity analysis will be used to illustrate the impact of model parameters on the model.

References

- [1] N. Ziyadi, *A male-female mathematical model of human papillomavirus (HPV) in African American population*, Math Biosci Eng. 14, 339-358 (2017).
- [2] A. Alsaleh and A. B. Gumel, *Analysis of risk-structured vaccination model for the dynamics of oncogenic and warts-causing HPV types*, Bulletin of Mathematical Biology, 76, 1670–1726 (2014).
- [3] S. Lee and A. Tameru, *A mathematical model of human papillomavirus (HPV) in the United States and its impact on cervical cancer*, Journal of Cancer , 3, 262–268 (2012).

First Author: Ziyadi, Najat

Affiliation: *Department of Mathematics, Morgan State University
USA*

e-mail: najat.ziyadi@morgan.edu