



May 21st, 5:30 PM - 8:00 PM

A Comparison of Obesity Interventions Using Energy Balance Models

Marcella Torres

Virginia Commonwealth University, torresmm@vcu.edu

Angela Reynolds

Virginia Commonwealth University, areynolds2@vcu.edu

Follow this and additional works at: <http://scholarscompass.vcu.edu/bamm>

 Part of the [Ordinary Differential Equations and Applied Dynamics Commons](#)

<http://scholarscompass.vcu.edu/bamm/2016/May21/35>

This Event is brought to you for free and open access by the Dept. of Mathematics and Applied Mathematics at VCU Scholars Compass. It has been accepted for inclusion in Biology and Medicine Through Mathematics Conference by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

Title: A Comparison of Obesity Interventions Using Energy Balance Models

Abstract: An energy balance model of human metabolism developed by Hall et al. is extended to compare body composition outcomes among standard and proposed obesity interventions. Standard interventions include drastic diet and endurance training with typically poor outcomes. Proposed interventions include resistance training to preserve lean mass and metabolic rate and a reverse diet. We observe that the proposed interventions may lead to continued maintenance of a healthy body composition following a diet.