1077-VC-2636 **Karen L. Hulsebosch*** (khulsebosch@olympic.edu), Olympic College, 1600 Chester Avenue, Bremerton, WA 98337-1699, and **Paul E. Seeburger**. *Enhancing Student Learning: The Use of CalcPlot3D Graphing Technology in Developing Core Competencies in Multivariable Calculus.* Preliminary report.

CalcPlot3D is a dynamic visualization tool that can help enhance student learning of multivariable calculus. The online exploration environment allows students to create and investigate graphs of functions of two variables, contour plots, gradient vectors, and more. This talk presents the results of a two-year study focused on differences in performance and retention for underrepresented groups of students in multivariable calculus at Olympic College and the use of graphing technology to enhance student learning. The purpose of the study was to investigate whether having students complete an online CalcPlot3D Lagrange Multiplier Exploration helped certain groups of students develop core competencies. The competencies under investigation included student abilities to use technology to construct graphical representations of a model and the use of technology to investigate the effect of changing a parameter within the model. Student and instructor impressions will be shared. (Received September 22, 2011)