962-N1-487 **Jean Marie McDill*** (jmcdill@calpoly.edu), Mathematics Department, California Polytechnic State University, San Luis Obispo, CA 93407, and **Agnes M Rash** (arash@sju.edu), Dept. of Mathematics and Computer Science, St. Joseph's University, 5600 City Ave., Philadelphia, PA 19131. *Dynamic Interactive Tools for Visualizing Concepts in Multivariate Calculus.* Preliminary report.

A lively set of 25 interactive computer illustrations (tools) on calculus and its applications has been developed as part of an NSF grant. The authors and graphics/software designers Hubert Hohn and Richard Willmore have developed the following tools quite recently as we near completion of the project. These tools include 3D visualization of partial derivatives, level curves and constraints, and the view of linear regression as an optimization problem in slope m and y intercept b. The tools are designed to be immediately accessible to the students. The student can interact with the illustrations by using the cursor to initiate action or to activate sliders to change parameters which are linked to 2D and 3D graphs. The tools are similar in design to those in Interactive Differential Equations (IDE). They are interactive, visually interesting and carefully focused on the concepts. (Received September 14, 2000)