1056-R1-1288   **Karl-Dieter Crisman*** (`karl.crisman@gordon.edu`). *Interactive Chaos Mathlets for Calculus I.* Preliminary report.

In a first calculus course, it can be difficult to convey that mathematics is more than a slew of formulas (and perhaps a few proofs). This is particularly true for a course with a broad range of constituencies. Concepts of chaos provide a good way to show that experimentation and surprise are part and parcel of math! However, without a well-defined context, this can be overwhelming or tedious for students.

In this talk, we demonstrate easy-to-use interactive mathlets exploring well-known instances of chaos relating to the concepts of limits, derivatives, and integrals. These are appropriate for guiding labs with reports, or simply as an in-class demonstration. We will demonstrate them using the software Sage; modifying them for recent releases of Mathematica and Maple, or creating one's own, should be straightforward. (Received September 21, 2009)