

The  
**UNT-RTG**

**UNDERGRADUATE MATHEMATICS RESEARCH COLLOQUIUM SERIES**

Presents



# PROFESSOR WILLIAM CHERRY

University of North Texas

**Tuesday, December 6, 2011, 5:00-6:00 PM**  
**General Academic Building, Room 105**

## ANALOGIES BETWEEN NUMBERS AND FUNCTIONS

When we first begin studying mathematics, we think of numbers and functions as very different sorts of objects. We also tend to think of numbers as relatively simple compared with functions. As we start to study abstract algebra, we also start to study similarities between numbers and functions. I will illustrate various instances of this similarity between numbers and functions. I will discuss some basic examples, such as long division and partial fractions. I will then move to the Stothers/Mason theorem for polynomials and the ABC conjecture for integers. Here I will make a connection to Fermat's Last Theorem. In my lecture I will also introduce some exotic absolute values that are different from our familiar notion of absolute value. By the end of my talk, I will try to convince you that although numbers feel much more intuitive to us, questions about numbers are, in fact, much more subtle than questions about functions.

**A pre-lecture reception with cookies, coffee and tea will be held at 4:30pm in Room 472 of the General Academic Building.**

The RTG in Logic and Dynamics is a research training group supported by the National Science Foundation and the University of North Texas.



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