

## COLLOQUIUM

4:00 P.M.

NOVEMBER 15, 2007

LYTLE HALL 218

*Euler's Equation, the Completeness Axiom, and  
Period Three as Models for Ontological Reality:  
a Philosophy of Mathematics.*

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## ABSTRACT

What is mathematics?

What does one do when one does mathematics? After a brief introduction to the utilization of period three and the completeness axiom within philosophical boundaries, these questions will be explored in terms of Euler's equation:  $e^{(i\pi)} + 1 = 0$ .

The argument will be made that mathematics is essentially a science of patterns within the ontological realities of shape, change, uncertainty, dimension and quantity. Each of these realities will be paired with the constants contained within Euler's equation: 1 being the fundamental constant of quantity, 0 the fundamental constant of uncertainty,  $\pi$  the fundamental constant of shape,  $i$  the fundamental constant of dimension and  $e$  the fundamental constant of change. These philosophical underpinnings have guided one person's conceptions about mathematics.

**3:30 p.m.****refreshments served****4:00 p.m.****talk begins**