

The GW Philosophy Department presents the 2014 Annual Thatcher Lecture:

# What Does a Mathematical Proof Really Prove?

by **Dr. Otavio Bueno**

**Friday, February 28<sup>th</sup> at 4:00pm in Duques Hall Room 251**

**Abstract:** Mathematical proofs have multiple functions in mathematics. They are, of course, primarily used to establish the relevant theorems. But it would be inadequate to conclude that this exhausts the role they play. Some proofs also provide explanation: an understanding of why a particular theorem holds, rather than simply establishing it. Proofs also develop ways of refining concepts, typically in the context of alleged counterexamples that need to be taken into account and avoided. Some proofs also connect different parts of mathematics that were thought of as being unconnected. In the end, different types of proof play different roles in mathematics. In this talk, Dr. Bueno explores these issues and provides a framework to classify proofs and assess them. In the end, he argues that there is a plurality of kinds of proofs in mathematics and that mathematical practice is far less unified in this respect than it has been suggested.

**Dr. Otávio Bueno** is Professor of Philosophy and Chair of the Philosophy Department at the University of Miami. His research concentrates in philosophy of science, philosophy of mathematics, philosophy of logic, and epistemology. He has published widely in these areas in journals such as: *Noûs*, *Mind*, *British Journal for the Philosophy of Science*, *Philosophy of Science*, *Journal of Philosophical Logic*, *Studies in History and Philosophy of Science*, *Analysis*, and *Erkenntnis*, among others. He is the author or editor of several books, and is editor-in-chief of *Synthese*.



**Refreshments will be served!**