1116-A1-2799   **Tracey McGrail*** (`tracey.mcgrail@marist.edu`). *"Big O" Captain, My Captain.*
Discrete mathematics is a course in which the topics are chosen by computers scientists but which is often taught by mathematicians. There is often a tension between the disciplines. Some textbooks contain material that the instructors do not want to teach; while others contain material that the students do not find relevant. So it is important to present material in such a way that students want to learn it and instructors want to teach it. One particular topic of concern is Big O notation. Big O notation is used to describe the efficiency of an algorithm. First- and second-year students of discrete mathematics often struggle with this concept, in part because they have not yet completed calculus. In this talk, I will make the case that the functional programming language Haskell provides a way to bridge this gap. On the one hand, Haskell is a nice tool for the students because it is an actual working programming language. On the other hand, Haskell is a nice language for the instructors because it is a pure equational theory. I will present a complete system for measuring run time of algorithms expressed in the programming language Haskell. (Received September 22, 2015)