1056-Z1-315 **Linda McGuire*** (lmcguire@muhlenberg.edu), Department of Mathematics and, Computer Science, Allentown, PA 18104. *Proving in the Right Circles.*

This talk will address the use of what this presenter calls "Proof Circles" as an approach to helping students acquire, develop and deepen critical reading, proof writing and problem-solving skills. Proof Circles are group work structures (similar to literary circles) with a decidedly mathematical focus and format.

In a Proof Circle, students are organized into working groups and each person is assigned a specific role. A group is given a problem to solve and a detailed argument justifying their result is required. Each individual student then assumes their role and approaches the problem from the perspective that their assigned part dictates. They have specific information to gather, ideas to formulate, and tasks to complete. The group members then report back to each other and begin to craft solutions and proofs based upon their pooled information. Ultimately, proofs are presented to the rest of the class.

During the presentation the idea of a Proof Circle will be introduced and defined. Sample problems from various courses would be discussed as well as several examples of student work. Assessment tools used to measure efficacy and student reactions upon course completion would also be addressed. (Received August 28, 2009)