1086-20-670 **Ellen M Ziliak***, eziliak@ben.edu. *Message Authentication Codes using Quasigroups.* Preliminary report.

Cryptography is the science of secure communication which is a very broad field. One widely studied cryptosystem that is used to protect message authenticity and data integrity is called a Message Authentication Code, or MAC. Usually MAC's are based on hash function, block ciphers and other algebraic structures. It turns out that cryptography is a great field to attract students into research in Abstract Algebra. In this talk I will discuss a project done with an undergraduate research student studying the security of a specific MAC. I will also discuss other applications that are interesting and accessible to undergraduates interested in applications of abstract algebra. (Received September 10, 2012)