1067-C5-2202 **Cheryl L. Beaver*** (beaverc@wou.edu), 345 N. Monmouth Ave., Monmouth, OR 97361. *Group Signature Schemes: How to share a secret without telling it.*

A cryptographic digital signature is used to mathematically verify the author of a message. The person who holds the secret key used in the signature algorithm is the only person who could have produced the signature. But can a digital signature fairly represent a group of people? It can as long as the secret key is shared among the group members in such a way that no one person knows the key. The mathematics behind secret sharing schemes is quite simple and appropriate for undergraduates. We will explore how these schemes work and how the concept can be extended to develop cryptographic group signature schemes. (Received September 22, 2010)