

1161-94-225

Allison Beemer* (beemera@uwec.edu), **Eric Graves**, **Joerg Kliewer**, **Oliver Kosut** and **Paul Yu**. *Throwing out the bathwater: authentication over multiple-access channels.*

In this talk, we present results on authenticated communication over adversarial multiple-access channels (MACs). We first consider a standard definition of authentication, in which a receiver may either decode all messages correctly or discard all messages if a malicious adversary is detected. For this setting, we see that an extension of the arbitrarily-varying channel condition overwritability characterizes the two-user authentication capacity region. We then define gamma-correcting authentication, where we require that at least a gamma fraction of the users' messages be recovered, even if an adversary forces the receiver to throw out other messages. We give necessary conditions for the two-user gamma-correcting authentication capacity region to have nonempty interior, and show that positive rate pairs are achievable over a particular adversarial MAC that satisfies these conditions. We conclude by exploring coding schemes that will allow for partial message correction over such channels. (Received August 17, 2020)