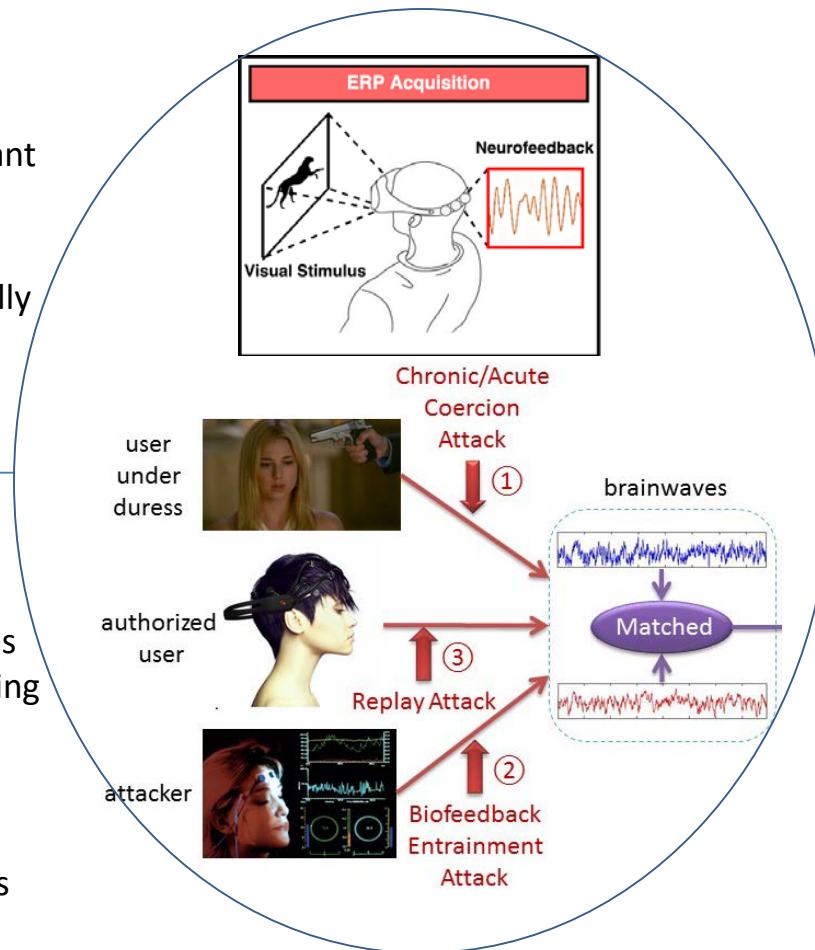# Brain Hacking: Assessing Psychophysiological and Computational Vulnerabilities in Brain-based Biometrics

Challenge:

- How vulnerable and resistant are brain biometrics to malicious attacks?
- Can brainwaves be physically impersonated or digitally counterfeited?

Scientific Impact:

- Brain biometrics are more useful when their vulnerabilities are known
- This research helps the community understand what is and is not possible to do to attack a brain biometric.

Solutions:

- Systematic investigation of computational and psychological vulnerabilities
- New techniques for detecting fake brainprints
- Investigation of brainprint impersonation
- Brainprint updating for cancelable brain biometrics

Broader Impact:

- Substantial popular media attention on this project brings it to a wide audience.
- Makes the public aware of the concept that biometrics aren't foolproof.
- Aids in the design of brain biometrics outside the lab.