

# Grad Seminar

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## 05 April 2019—PKH 107

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*\*Undergraduates welcomed\**

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### AMANDA "SVU" PATRICK FORENSIC ADVANTAGES OF SAFE SEX

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#### ABSTRACT:

Condoms are a challenging substrate as an evidentiary item since they do not hold a determined shape and fundamental composition may vary depending on the brand. In order to optimize investigative procedures on these substrates variable involved with developing fingerprints and characterizing the brand of the condom were tested. Fingerprints were deposited onto condoms of various brands, exposed to different temperatures, and developed with superglue fuming, magnetic powder, and Rhodamine 6G (R6G). Results indicated that optimal fingerprint development is achieved by using the method that takes into account of the substrate and temperature. In order to characterize condom brands, condoms were sampled using a relatively simple sampling procedure, solid phase microextraction (SPME), and analyzed using gas chromatography-mass spectrometry (GC-MS). Using principal component analysis and hierarchical clustering with the chemical profile of each sample, the brands were able to be discriminated. **KEYWORDS:** Latent Fingerprints, Development, Condoms, Solid-Phase Microextraction, Brands, Discriminate

#### PREVIOUS SCHOOLS:

Tyler Junior College

The University of Texas at Arlington

Texas Tech University

#### INTERESTS :

Folks call me "SVU" and I like coffee! Basically, I'm a forensic mathematician!