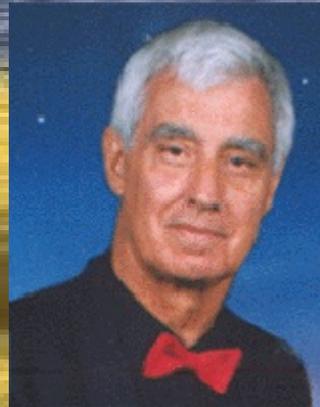


FORENSIC CHARACTERIZATION OF

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FORENSIC
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Fibers are often exchanged between criminal, victim, and crime scene in the course of a criminal act. The recovery and characterization of fibers and the comparison with fibers from known sources may help to associate a suspect with a crime. Unlike DNA or fingerprints, fibers are class type evidence. Any examination methods that can place questioned fibers into a smaller subclass will increase their value as associative evidence. Whether the fiber source is from carpets, apparel, draperies, or upholstery, today most fabrics have received one or more type of surface-modification treatments such as stain resistance, permanent press, or water proofing. This presentation will show how from just a single fiber x-ray photoelectron spectroscopy (XPS) can nondestructively distinguish these surface modifications.

Robert (Bob) D. Blackledge received his BS (chem.) from The Citadel in 1960 and his MS (chem.) from the University of Georgia in 1962. Starting with the Florida Department of Law Enforcement's Tallahassee Crime Lab in 1971, Bob worked in forensic science for over thirty years. Stops along the way included eleven years with the U.S. Army Criminal Investigation Laboratory-Europe, back during the Cold War when there was a crime lab in Frankfurt, Germany. Bob's final stint was as the Senior Chemist with the Naval Criminal Investigative Service Regional Forensic Laboratory-San Diego from 1989 to 2006. The author or co-author of roughly fifty journal articles and book chapters, his interests are wide-ranging but his special passion is trace evidence.

Reports of his research have been published in the FBI's Law Enforcement Bulletin, the FBI's Crime Laboratory Digest, the Journal of Forensic Sciences, Science & Justice, Forensic Science International, Forensic Science Review, Microgram Journal, and Analytica Chimica Acta. He is the editor for, "*Forensic Analysis on the Cutting Edge: New Methods for Trace Evidence Analysis*", published by Wiley-Interscience in Aug. 2007.