B97 Beyond Cotton, Nylon and Polyester: The Emergence of New Types of Fibers and Yarns

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After attending this presentation, attendees will learn about the new fibers and yarns in the market that fiber examiners need to be aware of in case they show up in their casework.

This presentation will impact the forensic community and/or humanity by demonstrating the importance of staying current in new devel- opments in fiber manufacturing.

Watching the yarn stores, direct mail companies and the internet, Forensic scientists can keep up with fiber innovations previously only reported in the industry journals that are now making it in the marketplace and therefore might end up in casework. While cotton, nylon and polyester are still the most common fiber types produced and sold in the US and world markets, new fibers like soy silk are emerging into the marketplace as well as new and different combinations of fibers in yarns. Stainless steel "threads" are being twisted in with silk strands to make a very strong yarn which is also very soft and pliable. Linen is being molded into flat sheets and then twisted around cotton cores. Hemp themed stores are springing up featuring clothing that is made from 100% hemp or hemp-blends. Bamboo fibers are being promoted for their natural antibacterial properties as well as for being a renewable fiber source. Lurex fibers and non-woven fabrics are currently found making up portions of yarns. Knowing the characteristics of these fibers is essential to maintaining proficiency in fiber examinations so new or unusual fibers won't be misidentified in casework. An overview of the microscopic characteristics and the optical and chemical properties of these fiber types and yarn will be presented because familiarization with the current trends in textile and yarn production is essential for forensic fiber scientists.

Fibers, Yarns, New