B18 Education of the Forensic DNA Analyst in the 21st Century

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After attending this presentation, attendees will gain knowledge of a graduate program specilaizing in training forensic DNA analyst and technical leaders.

This presentation will impact the forensic community and/or humanity by informing the forensic community the existence of this program and its potential to assist the forensic community in the challenges of 21st. Century DNA testing. It is hoped that a dialouge will be started with Laboratory Directors and DNA Technical Leaders as to how the faculty can further design this program to keep it as relevant as possible in order to meet the current and future needs in the field.

Accreditation of Forensic DNA testing laboratories has now become standard in the field. An important aspect of the accreditation process is the qualifications and training of the DNA analyst. The National Standards has explicit requirements for coursework and training of DNA analysts and Technical Leaders. Furthermore, with the advent of new technologies such as SNP panels, Real-Time PCR, robotic systems, non-human DNA testing, mitochondrial DNA testing, Y chromosome analysis and Whole Genome Amplification individuals who are trained to understand the science, research, development and validation of these systems will soon be required by crime laboratories to implement these technologies. Other disciplines that are now developing including microbial forensics, bioterrorism, genomics and bioinformatics in forensic science, will require individuals with at least some familiarity with these areas.

In 2001, the University of North Texas Health Science Center started what was at that time, the first graduate program to offer a Master of Science degree specializing in Forensic Genetics. This program was developed to provide the forensic community with trained personnel, all of who meet and exceed the requirements to be DNA Technical Leaders except for the actual three-year work experience as a DNA analyst in a forensic laboratory. While that is still the primary focus of the program, it is also recognized by the faculty that it must keep abreast of new discoveries and technologies available in genetics and identity testing so as to produce the finest students capable of working in 21st century forensic laboratories.

The program itself is two years in length. The first year consists of coursework in molecular biology, biochemistry, ethics, biostatistics, a journal club entitled “Topics in Forensic and Molecular Genetics,” population genetics, immunology and microbiology. During the summer of year one the students take two courses, Molecular Methods in Forensic Genetics and QA/QC for Forensic DNA Laboratories. Second year coursework includes courses in Biological Evidence Evaluation, Genetic Data Analysis, Topics in Forensic and Molecular Genetics, Forensic Anthropology and Expert Testimony in Forensic Science. Four electives are also offered, Bloodstain Pattern Analysis, Forensic Hair Comparison, mtDNA Sequencing and Forensic Biology: The History and Science of Human Identity Testing. The last project the students need to complete is a 6-8 weeklong internship at a forensic laboratory. They then are required to present that and publicly defend it as an internship practicum.

This presentation will provide more information as to the coursework, research projects, job placements and future projects of this unique program.

DNA, Education, Training

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