D11 A Forum on Forensic Science Education: Do University Forensic Science Education Programs Meet the Needs of Forensic Laboratories and How Can Forensic Laboratories and Universities Work Together to Improve Forensic Science Education and Practice?

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After attending this presentation, attendees will be informed of the issues discussed during a recent forum on the collaboration between crime laboratories and university forensic science education programs.

This presentation will impact the forensic science community by expanding the awareness of forensic science educators and crime laboratory managers and bench workers of different ways in which academia and the working professional community can interact and collaborate to improve the education of forensic scientists and the quality of work done in the forensic science field.

The Midwest Association of Forensic Scientists and the Midwest Forensics Resource Center held a forum on forensic science education, June 15-17, 2010 in Indianapolis, Indiana. It asked: "Are university forensic science education programs meeting the needs of forensic science laboratories?" and "How can forensic laboratories and universities work together to improve forensic science education and practice?"

The Forum's discussion-leaders included:

- Forensic laboratory directors.
- Recent graduates of university forensic science programs working in forensic laboratories.
- Forensic scientists employed in crime laboratories who also instruct in university programs.
- University administrators, instructors and researchers.

Nineteen of the forty participants were from municipal, county, state, and federal forensic laboratories and twenty-one were from university forensic science programs.

Forum discussion was frank. Afterwards, participating educators reported making curriculum and instruction changes on the basis of forum discussion, and participating forensic laboratory administrators reported new collaborations with university forensic education programs. The dominant suggestion in the participant-evaluations was to establish a continuing forum.

The forum consisted of sessions during which three-member panels (each panel representing a participant group) addressed the topic- question from experience. Each 45-minute stimulus-session was followed by a 45-minute interactive discussion. Panels and discussions on the final morning addressed the potential for collaboration in curriculum improvement and forensic science research. For example:

Participating forensic laboratory directors expressed concern that college and university forensic science education credentials do not help when make hiring decisions.

One laboratory director participant asked the forum to consider the situation of a forensic manager seeking to hire a recent university graduate. He or she wants a candidate with several general characteristics:

- Good writing and speaking skills.
- Logic and reasoning skills.
- Ethics and morals.
- Inquisitiveness.
- A bachelor's degree (indicating significant laboratory skill and experience, a grasp of science and scientific method, and topical knowledge in chemistry or another lab science*)*

The participant reported investing significant time and effort to assess points 1 through 4 directly (because university credentials do not/cannot document these effectively). It was also reported the investment of significant time and effort in assessment of university degrees.

This participant stated that the proliferation of forensic science programs complicates the hiring process with its plethora of "qualifications" which was illustrated with excerpts from applications that documented over 60 different forms of university qualification, including: forensic science workshops, training, certificates, institutional awards, associate's degrees, bachelor's degrees, master's degrees and doctorates.

Forensic scientists who also instruct in university education programs, expressed concern that college and university forensic science education programs ignore critical components of forensic practice.

One panelist noted that universities seem more-oriented toward forensic programs that correspond to their already-existing university departments (like DNA and forensic chemistry) than to other forensic disciplines, like trace evidence, firearms and tool marks, impression evidence, questioned documents, photography, and/or digital evidence.

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This presenter suggested that university programs and their graduates could benefit from a Courtroom-testimony-cum-public speaking course positioned early in the curriculum. He also proposed a class addressing the scientific method in forensic science.

A second panelist noted that some university programs fail to meet routine ethical standards. The panelist documented cases in which a university forensic science program was reluctant to fail students on tests and from classes in which they were caught cheating. Several more-serious ethical lapses were also documented.

Recent graduates of university forensic science programs now working in forensic laboratories said that university forensic science education programs failed to address knowledge critical to their work.

One participant had graduated from an ASC-accredited BS chemistry program with a forensic science emphasis. He described his academic program as heavy on theory and basic science. He noted that his daily on-the-job challenge was to apply science to specific cases and said that he had not practiced the application of science at the university.

He also felt his university education had not adequately addressed:

- Scientific quality assurance
- Forensic ethics
- Reproducibility
- Writing skills
- Verbal communication skills

This speaker was being trained as a firearms examiner, and further noted that firearms, fingerprints, footwear, tire tracks, pattern matching, and trace evidence were largely absent from his university and undergraduate program.

Administrators and staff from forensic science education programs described their programs and their response to university demands in the development and administration of them.

Several speakers described how they have structured programs in response to interactions with crime laboratory directors and staff, and the work they do to systematically implant forensic content into existing university classes and programs. However most said that laboratory concerns were secondary to traditional university curriculum development issues.

In response to laboratory requests for assistance in protocol development and validation studies, several mentioned that these forms of research do not really contribute to faculty promotion or tenure, and are not considered sufficient for master's degree projects. In response to requests for fundamental research into forensic science, one noted that

these are not commonly funded; that they may take many years to complete; that the academic audience for such studies is restricted, and that few upper tier journals are oriented to the publication of such studies.

Education, Laboratory, Collaboration

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