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Your expectations in 2005

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ABSTRACT

Rapid advances in science and computers may bring about new and novel ways of committing crime. But at the same time forensic scientists would be developing newer techniques to detect crime. With the coming of the internet and Email, communication would become rapid and more efficient, and everybody - including law enforcement officials and scientists - would be able to communicate freely with their counterparts around the world. This paper discusses what we - as forensic scientists - can expect in next five years.

Keywords: computer forensics, cyber crime, DNA profiling, forensic computing, internet, internet journals, privacy laws

Paper

In many forensic laboratories there is a long term planning for the next five years. Most of these plans will contain expected developments in these years. When we look in to developments and much of this is related to technology and validation in forensic science. One of the main developments in the past years is the exchange of information that works more rapidly due to the Internet, and we will experience more if this in the next years.

Lawyers use the Internet more often, and nowadays when you testify in court your case might be challenged because it is known that similar evidence somewhere else in the world is not accepted. As a forensic scientist you should be prepared for these kinds of questions. Furthermore the search techniques for information will improve and it will be a lot easier to find the information that is needed.

Internet Journals like this journal will become the standard way of communication. The large publishing companies only survive if they also have their e-commerce part ready with reviewed

papers and lower their fees for subscription. More persons cooperating on the different aspects of a paper should handle reviews of papers more quickly.

Cyber crime is a new challenge for forensics. However most of the fraud cases in cyber world can also happen in real life. And in these kind of cases digital evidence will play an important role. One problem with cyber crime is that the borders of countries are very easy to cross, so it has to be handled internationally.

Also new improvements in technologies will appear. For DNA the prediction is that it will be a possibility for the police to make a DNA-profile at the scene of crime, and then compare it to the database. It depends on the privacy laws and issues how many peoples DNA will be in the database, however in five years there could be some countries that have the DNA of all their citizens in a database.

Since we will have mobile high speed networking equipment, examination can be handled at the scene of crime, and the forensic expert at the laboratory can visit the scene of crime virtually if an advise is needed.

The use of databases will become much more important for validation of techniques. In the past the expert could say for fingerprints that you need a number of points (depending on the country; between 8-16) to identify a fingerprint However statisticians will ask for a scientific evidence, and all kind of evidence materials that were accepted have to be validated again with these databases. Search techniques in databases will improve, and together with statisticians we might say more about chances that your conclusions are right or wrong.

The forensic pathology will have influences of new techniques in visualization. The CT scan and MRI-scan will also be used in these laboratories for visualization. The expectation is that courts will require more visualization with 3D-reconstruction techniques in general, and that means that we will have to do much more on validation on these techniques.

The time that a case will take in the laboratory might be longer, due to the complexity of the cases and the number of techniques that can be used. Moreover, it is necessary that we write integrated reports, since the courts have to know what statistical relevancy a combination of techniques and evidence will deliver them. However at the other hand the techniques are engineered further, and this might reduce the time of standard methods.

When making these plans one warning should be considered. The involvement of the human resources remains important, and we have to be considerate to our human resources very well as always. Some of them can not cope with the changes, and that is something we have to take in mind. However, the methods that have been used ten years ago will also be appropriate in this time. One problem is however that the differences between laboratories and countries will grow, because of lack of funding of them if they do not have their long-term vision ready. Of course we have to cooperate internationally, since the resources of the law enforcement are limited, and together we can improve the knowledge of the forensic community faster.