International Association for Identification

Robert J. Garrett, President
93 Highland Avenue
Metuchen, NJ 08840

Phone: 732-548-8431
Fax: 732-907-1138
Robert.garrett@theiai.org

The Honorable Patrick J. Leahy
Chairman, Senate Committee on the Judiciary
433 Russell Senate Office Building
United States Senate
Washington, DC 20510

March 18, 2009

Dear Mr. Chairman,

The International Association for Identification (IAI), with a membership of over 7,000 individuals, is a professional association of forensic practitioners covering fifteen forensic disciplines, most whom practice in the United States. The IAI has studied the report issued by the National Academies of Science titled "Strengthening Forensic Science in the United States: A Path Forward" at length along with the thirteen recommendations that the NAS Committee has prepared. While there are some topics of greater interest to the IAI and others less so, there is at least some interest by the IAI in each recommendation before the Committee. The IAI believes that the forensic disciplines represented by our Association are capable of providing reliable conclusions based on sound scientific principles when conducted by individuals, trained to competency, using scientific and professionally accepted practices and procedures.

The forensic science disciplines represented by this association are not a nouveau science invoked for the purposes and convenience of law enforcement. On the contrary, they have a deep seated history of research based on the hard sciences. Bloodstain pattern analysis can be traced back to the Institute for Forensic Medicine in Poland, to Dr. Eduard Piotrowski. In 1894 Piotrowski published his manuscript "Concerning the Origin, Shape, Direction and Distribution of the Bloodstains Following Head Wounds Caused by Blows." The science of fingerprints can be traced even further back in time to the year 1686 to the University of Bologna in Italy, where a professor of anatomy named Marcello Malpighi noted the common characteristics of spirals, loops and ridges in fingerprints, using the newly invented microscope for his studies. Then in 1823 a thesis was published by Johannes Evengelista Purkinje, professor of anatomy with the University of Breslau, Prussia. The thesis details a full nine different fingerprint patterns. Although the use of fingerprints can be traced back to 1000-2000B.C. where they were used on clay tablets for business transactions in ancient Babylon, no reference to personal identification was made until 1880 when Dr. Henry Faulds, a British surgeon and Superintendent of Tsukiji Hospital in Tokyo, published an article in the Scientific Journal, "Nautre" where he discussed fingerprints as a means of personal identification.

We also believe that the NAS Executive Summary regarding certain forensic disciplines does not fully convey the findings of the NAS as spelled out in the report in its entirety. Although we agree with the NAS that additional research needs to be conducted, we would like to point out the following statement in regards to fingerprint analysis contained on page 5-12: "it seems plausible that a careful comparison of two impressions can accurately discern whether or not they had a common source." Therefore we submit that the fingerprint examinations conducted and continuing to be conducted across this country are reliable when conducted by individuals, trained to competency, using scientific and professionally accepted practices and procedures following accepted standards.

The IAI offers the following insights regarding the recommendations found in the Executive Summary:

Recommendation 1

The IAI believes that each of the forensic disciplines represented by the Association would benefit from an improved national infrastructure which provides 1) a standardized education and training program, 2) a short and long term research agenda and strategic plan, 3) standardized operating procedures, 4) enforcement mechanisms to comply with one through three, and 5) adequate funding necessary to achieve one through four and to maintain the infrastructure. Based upon the aforementioned, the IAI strongly endorses and supports the *concept* behind Recommendation 1 concerning the formation of a National Institute of Forensic Science (NIFS) along with those nine areas of focus enumerated in the summary. We believe that this national agency should be one of support, not governance, recognizing the proper role of the Courts and the States. We fully understand that the formation of such a body is not without out conflicting issues but the IAI does believe that there needs to be an entity able to address those issues as highlighted in the report.

Recommendation 2

The IAI agrees that standardization of terminology and model reporting of testing results would help eliminate confusion when interpreting examination findings. These standardized formats would also act as guides to examiners and the legal profession and reminders of what may be properly deduced from the testing effort.

Recommendation 3

The IAI has, for many years, sought support for research that would scientifically validate many of the comparative analyses conducted by its member practitioners. While there is a great deal of empirical evidence to support these exams, independent validation has been lacking. Daubert and Frye hearings of recent years have focused on the lack of scientific validation in a number of these forensic disciplines. Unfortunately, although some funds have been made available, definitive research has been elusive.

Part of the problem with conducting independent research is that many of the records and data needed for analysis is locked away as evidence or protected identity information. There is currently an effort on the part of the Federal Bureau of Investigation to develop biometric databases that could be used for research and the development of automated systems. It is hoped that these will be made available to researchers who undertake these validation projects.

Recommendation 4

In regards to Recommendation 4 concerning "removing all public forensic laboratories and facilities from the administrative control of law enforcement agencies or prosecutors' offices" again the IAI believes that the summary does not reflect the information contained in the body of the report. In the body it also alludes to insulation of laboratories as an alternative. We believe that the genesis of this section is insuring the adequate funding to and importance given to the laboratories that in some cases may not be the norm. There have been references to the removal of the laboratory due to pressures from the law enforcement environment of which they are a part or a question of integrity of its examiners. We do not feel that it is necessarily a question of integrity or external pressure since these issues may arise in any laboratory setting. We also believe that Recommendation 9 concerning a Code of Ethics, if not already in place in a laboratory, should be adopted along with a means of enforcement that would deal with those issues. For those who would argue for removal of the laboratories, we feel that a substantial counter argument can be made and supported if required. We believe that there needs to be a separate funding structure for crime labs and identification units so they don't compete with public safety and first responder resources.

Some would say these types of forensic service providers should be completely eliminated and all forensic analyses be conducted in crime laboratories. While perhaps a noble goal, given the large amount of forensic work done in identification units, this is not feasible. For example, approximately 66% of fingerprint analyses are not conducted in crime laboratories but rather in identification units. West Virginia University (WVU) is currently conducting a census of non-crime laboratory forensic service providers to get a better idea of how many non-crime laboratory entities are doing forensic work, what kind of analyses are conducted, staffing, budgets, etc. The study will mirror the Bureau of Justice Administration document, Census of Public Crime Laboratories of which you have a copy. That census will provide a much better idea of this oft overlooked segment of the forensic science system.

Recommendation 5

One of the more difficult factors to quantify in a forensic examination is the effect and cause of human error in the testing and analysis of evidence. Unlike machines and computers, humans can't be calibrated to exacting tolerances or measured against a product standard. Recognizing this difficulty, the National Institute for Justice (NIJ) and the National Institute of Standards and Technology (NIST) have sponsored an expert working group to study the effects of human factors in latent print analysis. It is believed that the findings of this group will be able to be extrapolated to other comparative analysis disciplines.

Issues of "contextual bias" on the part of forensic examiners are based on poorly structured research and limited testing among the relevant population. None of the existing research involved test subjects who were pre-qualified through skill based testing. It is a great stretch to believe that a professional analyst would risk their integrity and jeopardize the rights and freedoms of the innocent to satisfy some desire to be "accepted" by clients and client agencies.

A mistake often made by critics is to lump acts of fraud, intentional misinformation, with acts of error in calculating the impact on the criminal justice system and society in general. This lumping only serves to confuse the true causes of problematic analyses and does not serve the effort to correct deficiencies.

Recommendation 6

The IAI supports the effort "to develop tools for advancing measurement, validation, reliability, information sharing and proficiency testing in forensic science and to establish protocols for forensic examinations, methods and practices."

Recommendation 7

The IAI endorses the accreditation of forensic science operations. Accreditation by the American Society of Crime Laboratory Directors, Laboratory Accreditation Board (ASCLD-LAB), Forensic Quality Services (FQS) and others is widely accepted by many crime laboratories, but much less so by other forensic service providers such as identification units, often found in law enforcement agencies. In order to meet the ongoing movement toward accreditation, those forensic service providers must be made aware of the benefits of accreditation and quality systems in general. Quality managers must be identified and appropriate reporting, documentation and other aspects of accreditation be implemented. Accreditation does not come without a cost. Agency administrators must be convinced that accreditation is important and worthy of funding with scarce dollars.

The IAI endorses certification of forensic science practitioners. A natural progression from the quality systems of the organization (accreditation) is the competency of the individual, or certification. Certification in forensic disciplines is widely available from the International Association for Identification (IAI), the American Board of Criminalistics (ABC), the American Board of Forensic Toxicologists (ABFT), the American Board of Forensic Document Examiners (ABFDE) to name but a few. All crime laboratories and other forensic service providers should move toward certification of their analysts. While no program of certification or accreditation can guarantee quality, certification, at a minimum, attests that the individual performing the analysis has met a certain standard of competence as evidenced by the certification program. Continuing proficiency testing is also desirable to assure that competency is maintained over time.
As stated previously, the IAI has several certification programs for forensic practitioners. The IAI believes certification is a demonstration of a practitioner's ability to perform a forensic examination reliably, providing the public and judicial communities with a measure of competency and credibility. As previously mentioned, practitioner certification is a continuum of the quality program, which includes periodic proficiency testing to ensure that competency is being maintained. The IAI endorses both practitioner certification and proficiency testing.

The IAI believes that any entity, public or private, performing forensic science examinations, whether for criminal or civil purposes, should be accredited by an independent, professionally recognized and authorized accrediting body. While this will not eradicate errors or preclude unethical behavior of practitioners, it will insure that acceptable quality assurance mechanisms are in place to reduce the risk of error and to more easily detect and correct unacceptable practices, as well as unethical behavior. Forensic science laboratory accreditation is a desired objective by the IAI.

Recommendation 8

The IAI agrees that "forensic laboratories should establish routine quality assurance and quality control procedures to ensure the accuracy of forensic analyses and the work of forensic practitioners." It should be noted that such procedures are already in place at accredited laboratories.

Recommendation 9

The IAI currently has in place a Code of Professional Conduct and Code of Ethics for its members and persons certified by the IAI in one of the forensic disciplines. The IAI also has an enforcement mechanism which provides due process and penalties if appropriate. We would therefore support any measure to establish a national code of ethics for forensic practitioners.

Recommendation 10

In regards to Recommendation 10 the attracting of students into the forensic science disciplines, the IAI firmly supports this recommendation as well. The IAI has noted a significant increase in the number of individuals interested in pursuing the forensic sciences. The IAI suspects this is primarily due to the current popularity of crime related television programs exploiting the use of forensic science to solve crime. Our experience in working with these highly motivated students is that most of the forensic science programs offered in universities today teach general crime scene investigation with little detail into the actual technical aspects of forensic science examinations. Most courses only provide theory and procedures but lack actual performance based instruction. What results from this limited formal education is that a law enforcement agency hiring one of these graduates must still provide a complete forensic science training program. Many agencies' training programs range from six months to 24 months.

For example, in the latent print discipline (as well as other comparative analysis disciplines) many individuals are hired having a university degree, to include scientific graduate and doctoral degrees, that have never conducted an impression comparison, or have conducted a miniscule number of impression comparisons that are not representative of those encountered in actual case work, giving them an unrealistic expectation of the comparison process. Whereas, comprehensive comparison training exercises designed to address all levels of difficulty and unusual circumstances would provide a measurement of the student's ability. Accomplishing this goal would provide the student with tens of thousands of comparisons and result in a better prepared individual with a performance record for potential employers to assess. A new hire having these demonstrated and proven skills would significantly reduce the training time needed to be provided by the law enforcement agency or laboratory, as well show aptitude for conducting impression comparisons.

Recommendation 11

The IAI endorses the effort to improve medicolegal death investigations, increased training for forensic pathologists, the supervision of autopsies by certified forensic pathologists and the accreditation of medical examiner facilities and laboratories.

Recommendation 12

In regards to Recommendation 12 "to achieve nationwide fingerprint interoperability", the IAI enthusiastically supports this position. The intent of the IAI is to improve and increase latent print services via the use of Automated Fingerprint Identification Systems (AFIS). Latent print identifications are not only reliable as a means to individualize but offer powerful probative forensic evidence. As such, latent print examinations should be afforded the broadest possible opportunities to positively identify perpetrators of crime and those responsible for terrorist acts. Given that the standards to be interoperable and the technology to be widely connected have existed for at least a decade, coupled with the fact that fingerprints and palm prints have been

utilized successfully for over 100 years, one would expect that searching a latent print against every conceivable fingerprint and palm print repository is something that not only currently exists but has existed for quite some time. To the contrary, the capability to search latent fingerprints in an automated, widely networked manner is quite limited and does not provide all of the potential that should be exploited for such a powerful tool in our arsenal to fight crime, identify terrorists and even potentially prevent acts of terrorism.

The IAI supports the need to pursue the opportunities to improve and increase impression evidence services via the use of automation technology and electronic networking. Improving and increasing latent and recorded print services encompasses more than just having connectivity between AFIS systems or being interoperable from a technical standpoint. By more, it is meant to be far more reaching than just the capability to search another agency's fingerprint repository. Such things as better utilization of unidentified latent print repositories being accessed and shared, access and sharing 10-print fingerprint records and images, increase in qualified latent print experts, and appropriate funding for handling such an increase in personnel and AFIS computer and connectivity related resources. There are underlying and periphery matters as well, such as improved fingerprint image quality, advanced training of experts, research into next generation fingerprint matcher technology, and many others.

The current AFIS latent print concept of operations for exchanging latent print services is, at best, to utilize the FBI's Integrated AFIS (IAFIS) coupled with the FBI Criminal Justice Information Systems (CJIS) Wide Area Network (WAN), or CJIS-WAN. This concept limits latent print searching via electronic means to a sequential process that starts at the local agency level, and migrating through the state agency to the FBI. The concept supports the philosophy that local crime will most likely be solved at the local level, then the state, and, if all else fails, the national level. While at first blush this seems reasonable, it is quite limited. The fact is there are many advantages that are excluded from this concept. To further complicate this matter, given today's highly mobile society, jurisdictional boundaries are meaningless to criminals or terrorists. The aforementioned concept should not be rejected as flawed or replaced as it has proven to be quite effective and has resulted in positive identifications of many individuals and solving many crimes; and is expected to continue to be effective. But rather, this concept needs to be expanded to better exploit more opportunities to identify more individuals and aid in solving even more crimes. The successes to date only exemplify the tip of the iceberg if latent services were to be expanded.

What specifically needs to be improved and what increases are needed? The major stumbling blocks to such improvements and increases are many and each has several underlying issues. This does not mean that the improvements and increases cannot be accomplished but rather that a thorough investigation and sound advice is crucial to making good recommendations. The first and most significant hurdle is the political will to proceed towards these objectives. The underlying issues, to no surprise, are the unknown cost/benefits, increased personnel resources, and unknown impact on current AFIS systems. Law enforcement managers seem to be reluctant to permit the open connectivity without understanding the consequences, and rightfully so. Regardless, it is widely acknowledged that success would result from such improvements and increases; it is just very difficult to accurately predict cost/benefits and their impact from such an endeavor.

A second hurdle that needs to be overcome is the connectivity/networking requirements. While the FBI's CJIS WAN is currently in place it is only currently being utilized as a one-way street to the FBI. It is not currently utilized for state X to search a latent print against state Y's fingerprint or palm print repository. Further, it does not permit a Federal law enforcement agency

to search latent prints directly against state X's fingerprint repository. The FBI has clearly stated that they would support such procedures via the CJIS WAN provided all the participating parties have the appropriate Memorandums of Agreement (MOA) in place. Here lies the hurdle. Obtaining MOA's from all parties is not a simple undertaking and generally requires legal considerations. The expectation of these MOA's being achieved from all parties or in any reasonable timeframe (probably years) is very low. A different approach needs to be considered. National legislation with funding is an alternative.

A third hurdle is that all fingerprint records are not centrally located. Given the 50 states and the Federal regulations there are as many reasons why all fingerprint records are not centrally located. If this hurdle cannot be overcome then it bolsters the need for an electronic network in which all are connected.

A fourth hurdle is to address the need to maintain accuracy. It serves no purpose, or at best, a limited purpose, to be connected but not be able to achieve accurate search results. The interoperability of different AFIS technologies can be addressed either from latent print images or latent print minutiae templates. By going the image route generally requires human input on the receivers end and would require additional personnel resources depending on the workload increase. By going the minutiae template route there remains accuracy issues. Both can be supported and are supported by the IAI.

A fifth hurdle is workload management. Issues arise about how one manages their own agency's needs with that of high priority requests from outside requests is just one of numerous others.

A sixth hurdle is the need to provide up-to-date information for what each agency can support. Does the agency have a palm print repository? Is there an unsolved latent print repository? What is the current AFIS technology in place? These are just a few of the many types of functions that would need to be managed.
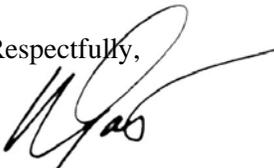
Recommendation 13

The IAI supports the recommendation to incorporate good forensic science practices in the effort to bolster Homeland Security effectiveness.

We would hope that Congress takes advantage of this report and its recommendations by implementing improvements in a manner which guarantees the citizens of this great country and all those subject to its laws that evidence which has been recovered, examined, and introduced by competent examiners in a judicial proceeding be scientifically sound whereby justice can be served for all.

The IAI is grateful for the opportunity to address the committee and provide our positions, recommendations, and insight on key issues affecting various disciplines within the forensic science community.

Respectfully,

Robert J. Garrett
President, I.A.I.