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Socio-Legal Dimensions of DNA Technology: Its Interface with Indian Legal System

Summary of the thesis
Submitted for the award of Degree of
Doctor of Philosophy in Law

By:
Harita Krishnarao Shinde
Department of Law, Faculty of Law
The Maharaja Sayajirao University of Baroda
Vadodara

Under the Guidance of
Prof. (Dr.) Syed Maswood

Department of Law, Faculty of Law
The Maharaja Sayajirao University of Baroda
Vadodara

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A brief account of suggestions proposed by the Researcher is as follows:

- Eliminate the current backlog of unanalyzed DNA samples and biological evidence for the most serious violent offenses — rapes, murders, and kidnappings—and for convicted offender samples needing testing.
- Improve crime laboratories' capacities to analyze DNA samples in a timely fashion.
- Stimulate research and develop new DNA technologies and advances in all forensic sciences areas.
- Develop training and provide assistance about the collection and use of DNA evidence to a wide variety of criminal justice professionals.
- Provide access to appropriate post conviction DNA testing of crime scene evidence not tested at the time of trial.
- Ensure that DNA forensic technology is used to its full potential to solve missing person's cases and identify human remains.
- Protect the innocent.
- In the forensic context as in the medical setting, DNA information is personal, and a person's privacy and need for confidentiality should be respected. The release of DNA information on a criminal population without the subjects' permission for purposes other than law enforcement should be considered.
- Misuse of the information, and legal sanctions should be established to deter the unauthorized dissemination or procurement of DNA information that was obtained for forensic purposes.
- Prosecutors and defense counsel should not oversell DNA evidence. Presentations that suggest to a judge or jury that DNA typing is infallible are rarely justified and should be avoided.
- Mechanisms should be established to ensure the accountability of laboratories and personnel involved in DNA typing and to make appropriate public scrutiny possible.
- Organizations that conduct accreditation or regulation of DNA technology for forensic purposes should not be subject to the influence of private companies,

public laboratories, or other organizations actually engaged in laboratory work.

- Private laboratories used for testing should not be permitted to withhold information from defendants on the grounds that trade secrets are involved.
- The same standards and peer-review processes used to evaluate advances in biomedical science and technology should be used to evaluate forensic DNA methods and techniques.
- Efforts at international cooperation should be furthered to ensure uniform international standards and the fullest possible exchange of scientific knowledge and technical expertise.
- In the forensic context as in the medical setting, DNA information is personal, and a person's privacy and need for confidentiality should be respected. The release of DNA information on a criminal population without the subjects' permission for purposes other than law enforcement should be considered a misuse of the information, and legal sanctions should be established to deter the unauthorized dissemination or procurement of DNA information that was obtained for forensic purposes.
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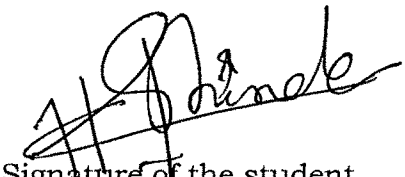
- The same standards and peer-review processes used to evaluate advances in biomedical science and technology should be used to evaluate forensic DNA methods and techniques.

- Efforts at international cooperation should be furthered, in order to ensure uniform international standards and the fullest possible exchange of scientific knowledge and technical expertise.
- Courts should take judicial notice of three scientific underpinnings of DNA typing
- The study of DNA polymorphisms can, in principle, provide a reliable method for comparing samples.
- Each person's DNA is unique (with the exception of identical twins), although the actual discriminatory power of any particular DNA test will depend on the sites of DNA variation examined.
- The current laboratory procedure for detecting DNA variation (specifically, single-locus probes analyzed on Southern blots without evidence of band shifting) is fundamentally sound, although the validity of any particular implementation of the basic procedure will depend on proper characterization of the reproducibility of the system (e.g., measurement variation) and the inclusion of all necessary scientific controls.
- The adequacy of the method used to acquire and analyze samples in a given case bears on the admissibility of the evidence and should, unless stipulated, be adjudicated case by case. In this adjudication, the accreditation and certification status of the laboratory performing the analysis should be taken into account.
- Because of the potential power of DNA evidence, authorities must make funds available to pay for expert witnesses, and the appropriate parties must be informed of the use of DNA evidence as soon as possible.
- DNA samples (and evidence likely to contain DNA) should be preserved whenever that is possible. All data and laboratory records generated by analysis of DNA samples should be made freely available to all parties. Such access is essential for evaluating the analysis.
- Protective orders should be used only to protect the privacy of the persons involved.

Date: 23/2/12



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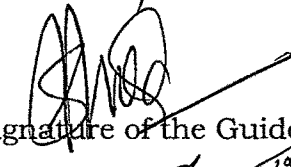

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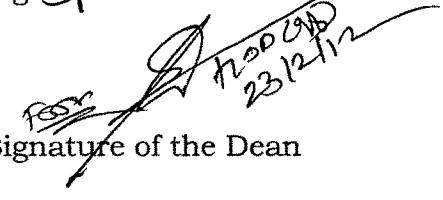

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