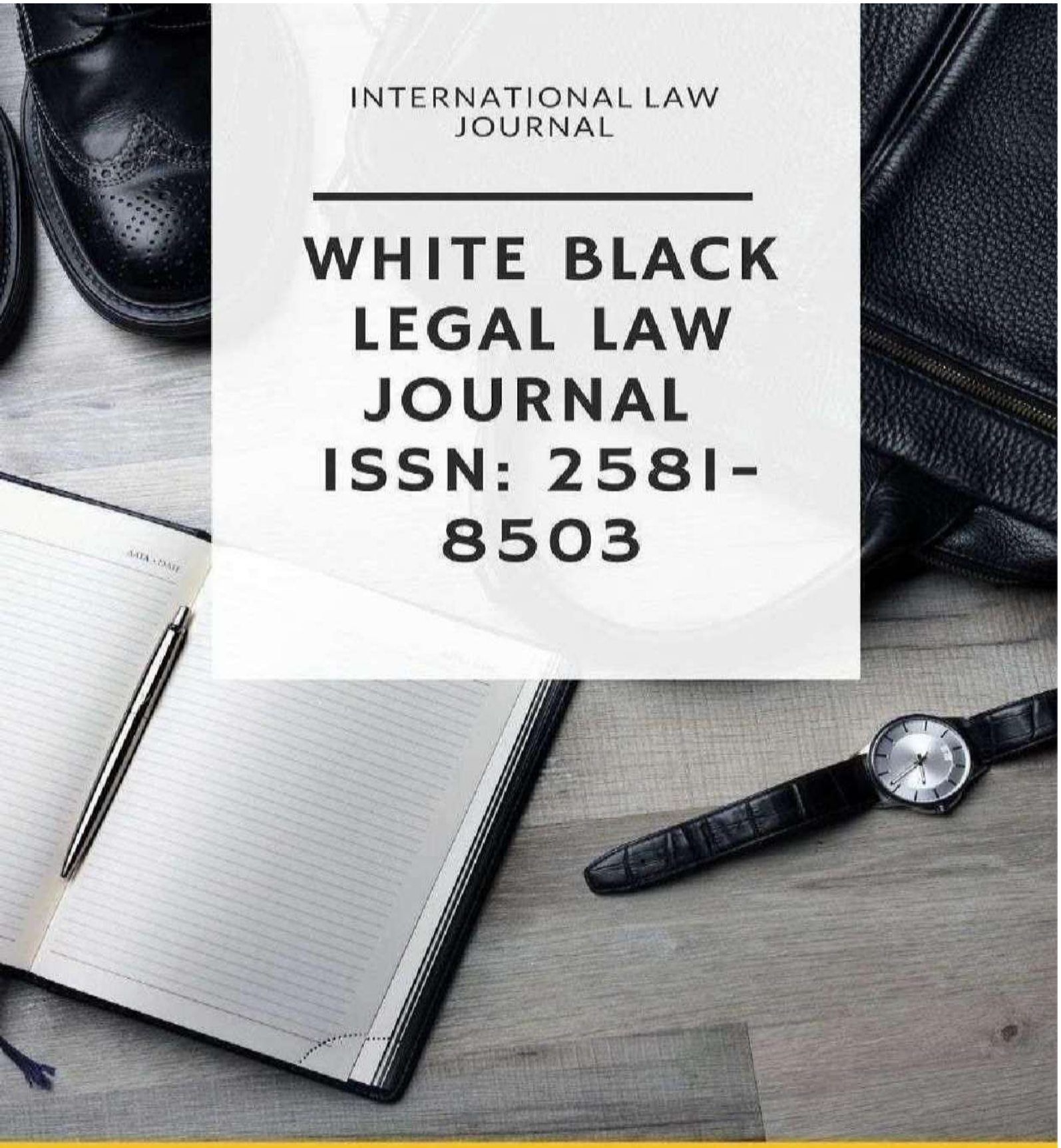

INTERNATIONAL LAW JOURNAL

WHITE BLACK LEGAL LAW JOURNAL

ISSN: 2581-8503

Peer - Reviewed & Refereed Journal

The Law Journal strives to provide a platform for discussion of International as well as National Developments in the Field of Law.

WWW.WHITEBLACKLEGAL.CO.IN

DISCLAIMER

EDITORIAL TEAM

Raju Narayana Swamy (IAS) Indian Administrative Service officer

Dr. Raju Narayana Swamy popularly known as Kerala's Anti-Corruption Crusader is the All India Topper of the 1991 batch of the IAS and is currently posted as Principal Secretary to the Government of Kerala. He has earned many accolades as he hit against the political-bureaucrat corruption nexus in India. Dr Swamy holds a B.Tech in Computer Science and Engineering from the IIT Madras and a Ph. D. in Cyber Law from Gujarat National Law University. He also has an LLM (Pro) (with specialization in IPR) as well as three PG Diplomas from the National Law University, Delhi- one in Urban Environmental Management and Law, another in Environmental Law and Policy and a third one in Tourism and Environmental Law. He also holds a post-graduate diploma in IPR from the National Law School, Bengaluru and a professional diploma in Public Procurement from the World Bank.

Dr. R. K. Upadhyay

Dr. R. K. Upadhyay is Registrar, University of Kota (Raj.), Dr Upadhyay obtained LLB , LLM degrees from Banaras Hindu University & Phd from university of Kota.He has succesfully completed UGC sponsored M.R.P for the work in the ares of the various prisoners reforms in the state of the Rajasthan.

Senior Editor

Dr. Neha Mishra

Dr. Neha Mishra is Associate Professor & Associate Dean (Scholarships) in Jindal Global Law School, OP Jindal Global University. She was awarded both her PhD degree and Associate Professor & Associate Dean M.A.; LL.B. (University of Delhi); LL.M.; Ph.D. (NLSIU, Bangalore) LLM from National Law School of India University, Bengaluru; she did her LL.B. from Faculty of Law, Delhi University as well as M.A. and B.A. from Hindu College and DCAC from DU respectively. Neha has been a Visiting Fellow, School of Social Work, Michigan State University, 2016 and invited speaker Panelist at Global Conference, Whitney R. Harris World Law Institute, Washington University in St.Louis, 2015.

Ms. Sumiti Ahuja

Ms. Sumiti Ahuja, Assistant Professor, Faculty of Law, University of Delhi,

Ms. Sumiti Ahuja completed her LL.M. from the Indian Law Institute with specialization in Criminal Law and Corporate Law, and has over nine years of teaching experience. She has done her LL.B. from the Faculty of Law, University of Delhi. She is currently pursuing Ph.D. in the area of Forensics and Law. Prior to joining the teaching profession, she has worked as Research Assistant for projects funded by different agencies of Govt. of India. She has developed various audio-video teaching modules under UGC e-PG Pathshala programme in the area of Criminology, under the aegis of an MHRD Project. Her areas of interest are Criminal Law, Law of Evidence, Interpretation of Statutes, and Clinical Legal Education.

Dr. Navtika Singh Nautiyal

Dr. Navtika Singh Nautiyal presently working as an Assistant Professor in School of law, Forensic Justice and Policy studies at National Forensic Sciences University, Gandhinagar, Gujarat. She has 9 years of Teaching and Research Experience. She has completed her Philosophy of Doctorate in 'Intercountry adoption laws from Uttranchal University, Dehradun' and LLM from Indian Law Institute, New Delhi.

Dr. Rinu Saraswat

Associate Professor at School of Law, Apex University, Jaipur, M.A, LL.M, Ph.D,

Dr. Rinu have 5 yrs of teaching experience in renowned institutions like Jagannath University and Apex University. Participated in more than 20 national and international seminars and conferences and 5 workshops and training programmes.

Dr. Nitesh Saraswat

E.MBA, LL.M, Ph.D, PGDSAPM
Currently working as Assistant Professor at Law Centre II, Faculty of Law, University of Delhi. Dr. Nitesh have 14 years of Teaching, Administrative and research experience in Renowned Institutions like Amity University, Tata Institute of Social Sciences, Jai Narain Vyas University Jodhpur, Jagannath University and Nirma University.
More than 25 Publications in renowned National and International Journals and has authored a Text book on Cr.P.C and Juvenile Delinquency law.

Subhrajit Chanda

BBA. LL.B. (Hons.) (Amity University, Rajasthan); LL. M. (UPES, Dehradun) (Nottingham Trent University, UK); Ph.D. Candidate (G.D. Goenka University)

Subhrajit did his LL.M. in Sports Law, from Nottingham Trent University of United Kingdoms, with international scholarship provided by university; he has also completed another LL.M. in Energy Law from University of Petroleum and Energy Studies, India. He did his B.B.A.LL.B. (Hons.) focussing on International Trade Law.

ABOUT US

WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal providededicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

UNETHICAL PRACTICES OF FORENSIC EXAMINERS: A TARNISH ON FORENSIC SCIENCE

AUTHORED BY - VIJAY KUMAR SHRIWASTWA[1]
& DR. OMPRAKASH D. SOMKUWAR[2]
[1*]Ph.D. Research Scholar, School of Legal Studies, Sangam University, Bhilwara, Rajasthan.
[2**]Associate Professor, School of Legal Studies, Sangam University, Bhilwara, Rajasthan.

Abstract

In criminal investigations, forensic science laboratories in India play an important role in the legal process by always providing fact-based evidence of guilt or innocence. Despite the increasing importance of forensic evidence, forensic science laboratories are required to do more work while handling challenges related to their operations. This paper aims to analyze the existing regulations related to forensic science laboratories in India and identify any deficiencies in regulating the operation of these laboratories. It raises the potential gap within the various branches of the criminal justice system, the lack of a cohesive body of law, and the shortage of empirical research into forensic science methodologies. The paper develops a typology that delineates errors related to forensic practitioners from errors of the system that communicate and utilize forensic evidence. It looks at errors relating to forensic testing and methodologies, unreliable or unproven methods, communication of probative value, and the interface of forensic science and investigative/practitioner agents. Also examined were issues of individualization or classification of evidence, testimony errors, and the utilization of forensic evidence in trials. Our research stresses the need for socio-legal solutions to close the gaps between forensic laboratories, police organizations, legal practitioners, sociologists, and researchers. This article provides recommendations for a multidisciplinary, scientifically informed way to move towards a more cohesive forensic laboratory system in India, based on national and international best practices.

Introduction

Forensic science is, in many instances, described as the bedrock of modern-day criminal justice; however, at other times, it may result in moral failure. It is paramount that forensic examiners are honest because forensic examiners' analyses and testimony may have far-

reaching implications for the outcome of judicial processes. However, forensic examiners have been involved in a number of unethical instances, which have tarnished the profession. These instances of unethical behaviours reflect a variety of behaviours, including altered evidence, falsified examinations or results, false testimony, and/or a compromised examination process. The integrity of forensic science may be undermined by such behaviours, resulting in a threat to the impartiality of the justice system. The potential for wrongful convictions is one of the most alarming implications of unethical practices in forensic science. Should forensic examiners deviate from ethics, the results can be catastrophic: innocents end up incarcerated, while the true perpetrator is left free. Well-publicized cases exemplified by Annie Dookhan and Sonja Farak have illustrated serious incidents of forensic malpractice. Calls for improved ethical standards, education, and monitoring practices have been made to combat these abuses. The absence of standard operating procedures and auditing mechanisms within forensic laboratories also exacerbates the problem. Forensic examiners often work in environments with little or insufficient supervision, which has enabled unethical conduct to remain undetected. Compounding additional difficulties, there is a meld of forensic science and law enforcement, where competing interests may be at odds, and pressure may be applied for prosecution-oriented evidence. Addressing the unethical practices of forensic examiners will require multiple approaches. To rebuild public trust in forensic science, stricter approval and accreditation processes need to be implemented, as well as a culture that supports ethical behaviour and reliable independent assessments. By addressing these concerns, the forensic community can contribute to an aspirational mindset towards a future where the pursuit of justice is not impeded by unethical behaviour.

The workload of forensic science laboratories in India is increasing exponentially with scientific advances in investigative methods.[1]

Forensic science laboratories are an integral part of the criminal justice system, facilitating forensic science agencies in collecting scientific evidence and disseminating results quickly to a myriad of stakeholders. Courts utilize results that are known to be valid, objective, and reliable when assessing and interpreting facts to assist in establishing the innocence of the accused in crimes or condemning the guilty beyond a reasonable doubt; forensic laboratories

[1] ANI, 'India's state forensic labs expanding infrastructure on back of rising demand for DNA Testing' *Business Standard* (16 May 2019) [https://www.business-standard.com/article/news-ani/india-s-state-forensic-labs-expanding-infrastructure-on-back-of-rising-demand-for-dna-testing-119051600921_1.html] Accessed on 17.08.2024

need to supplement their evidence with the latest information-gathering methodologies and the most reputable scientific practices to make the evidence perfect.[2] Furthermore, forensic laboratories should play a role in engaging and influencing decision-makers within the criminal justice system to promote the use of the most robust forensic methods and socio-legal research practices. The insularity of forensic laboratories, however, has failed to close the knowledge gap, thereby not assisting in systematically removing old scientific evidence and unreliable testing methods.[3] This gap has identified an enormous latent capacity of forensic laboratories to influence academic research, commercial enterprises, and transdisciplinary initiatives.[4] In 2019,[5] the Supreme Court of India (SC) in the case of ***Ankush Maruti Shinde v State of Maharashtra 2019*** has cleared the names of six individuals from Maharashtra who had been illegally sanctioned and brutally murdered for a crime they did not commit. The Supreme Court (SC) found that the prosecution failed to demonstrate sufficient forensic evidence to substantiate the rape allegation. The tangible discrepancies between DNA samples and any evidence regarding fingerprints were obscured throughout multiple trials in the appellate courts, even though the accused were imprisoned for over 16 years. The problem arises because judges are attempting to assign too much weight to the scientific evidence received in court, as they inherently accept science as infallible and difficult to dispute. As such, the Courts would like to treat forensic evidence as a completed science and avoid the consideration of flaws.[6] Whether it is State or District, or Central Forensic Science Laboratories (DFSLs) or Forensic Science Laboratories (CFSLs), the way all types of evidence are handled by these laboratories varies. Each test type is divided into categories at these laboratories, such as DNA and computer forensics, explosives, general chemistry, toxicology, forensic pathology, and pharmacology. As a country, India has not yet developed a single and inclusive regulatory system to control the sector, which in turn would ensure safe and authentic outcomes for society.

---

[2]Joseph L Peterson and others, *'Forensic Science and the Courts: The Uses and Effects of Scientific Evidence in Criminal Case Processing'* (1986) National Institute of Justice January 1986) https://www.ojp.gov/pdffiles1/pr/102387.pdf Accessed on 17.08.2024

[3]Eoghan Casey and others, 'The Kodak Syndrome: Risks and Opportunities Created by Decentralization of Forensic Capabilities' (2018) 64 (1) Journal of Forensic Sciences 7, 8.) https://onlinelibrary.wiley.com/doi/abs/10.1111/1556-4029.13849 Accessed on 17.08.2024

[4] Erin Murphy, *THE MISMATCH BETWEEN TWENTY- FIRST-CENTURY FORENSIC EVIDENCE AND OUR ANTIQUATED CRIMINAL JUSTICE SYSTEM*.'(2014) 87 Southern California Law Review 633.

[5]*Ankush Maruti Shinde v. State of Maharashtra*, 2019 SCC OnLine SC 317 (India). https://www.scconline.com/blog/post/2019/03/06/sc-acquits-6-falsely-implicated-death-row-convicts-in-a-16-year-old-crime-orders-reinvestigation/ Accessed on 17 Aug 2024.

[6] Éadaoin O'Brien, Niamh Nic Daeid & Sue Black, *Science in the Court: Pitfalls, Challenges and Solutions*, 370 PHILOS. TRANS. R. SOC. B BIOL. SCI. 20150062 (2015), https://royalsocietypublishing.org/doi/10.1098/rstb.2015.0062 (last visited Aug 24, 2024).

This analysis aims to detail regulatory deficits in existence today, with emphasis put on identifying and contrasting the differences in the operation of public forensic labs and commercial forensic labs. This discussion will aim to identify the regulatory framework that can best trace the Indian forensic lab system to be analyzed, and review the operational imperfections, for instance, whether resource, administrative, bureaucratic, financial, and research infractions exist within forensic lab practice. This discussion demonstrated the value of understanding and applying interdisciplinary considerations to develop solutions to the three key challenges in managing forensic science: empirical research, regulation, and laboratory practice. Forensic labs, local law enforcement agencies, judicial inquiries, sociologists, and academics should collaborate to see how they can eliminate the gap using socio-legal solutions.

"The man of science in the law is not merely a bookworm. To a microscopic eye for detail, he must unite an insight that tells him what details are significant. Not every maker of exact investigation counts, but only he who directs his investigation to a crucial point."

Justice Oliver Wendell Holmes[7]

Many reviews of sentinel events that seek to conduct in-depth investigations of wrongful conviction cases with forensic evidence can benefit from the case review method described herein. The data we cast a microscope on were primary and secondary sources that related to forensic evidence, and are relevant and publicly available (court transcripts, appeal legal rulings/decisions, etc.) to be built upon by others, who are independent experts. The entire dataset was dissected to provide a summary depiction of wrongful convictions in forensic science. To analyse allegations of errors in forensics, we utilized the case subsets while also seeking to clarify matters in certain disciplines. We categorized wrongful convictions with or without forensic information. The identification of errors is enough, but it is also important to identify the forensic methods used.[8] If forensic science is based on twisted or unproven methods,[9] it also has an unreasonable degree of trustworthiness.[10] We analysed the role of forensic information to assert guilt; identified possible sources of errors that happen across disciplines, policies, investigations, and laws.[11] In a criminal justice system error in forensic

[7]Oliver Wendell Holmes, *Law in Science and Science in Law*, 12 HARV. LAW REV. 443 (1899), https://www.jstor.org/stable/1321177?origin=crossref (last visited Aug 24, 2024).
[8] Emily West & Vanessa Meterko, *INNOCENCE PROJECT: DNA EXONERATIONS, 1989-2014: REVIEW OF DATA AND FINDINGS FROM THE FIRST 25 YEARS*.
[9] SimonA Cole, *ForensicScienceandWrongfulConvictions: FromExposertoContributortoCorrector*.
[10] SimonA Cole, *ForensicScienceandWrongfulConvictions: FromExposertoContributortoCorrector*.
[11]Brandon L. Garrett, *Wrongful Convictions*, 3 Ann. Rev. Criminol. 245, 245–59 (2020), https://www.annualreviews.org/content/journals/10.1146/annurev-criminol-011518-024739 (last visited Aug. 25, 2024).

science was something that could occur in the collection, processing, and/or use of scientific information. This current research attempts to examine claims around the frequency and factors that contribute to errors in forensic science; the article provides analysis on other correlative or contributing factors that may be of significance, such as the context of the agency and the education level of examiners.

Background:

Credibility. Forensic science is an essential aspect of the criminal justice system, and it requires thorough investigation and evaluation. Throughout the entire judicial process, the credibility and validity of forensic experts are of utmost importance, and upholding the tenets of justice is their goal. However, the emergence of fraudulent behaviours shows a disappointing reality for such a distinguished profession. This writing explores ***"Fraudulent Practices of Forensic Examiners, A Blight on Forensic Science,"*** an alarming context of misconduct that represents a threat to the validity of forensic evidence. This includes instances where examiners manipulate results, falsify findings, or are subjected to external influence, threatening the core of justice. Such misconduct skews outcomes in the legal realm and calls into question public confidence in fairness in matters of law, and intends to examine different types of fraudulent behaviours of forensic examiners, including perceived subtle bias in the context of interpretation and out-of-sight data falsification. This work aims to explore systemic failures of forensic laboratories, especially in terms of a lack of oversight and a lack of standardized requirements, which foster the opportunity for misconduct.

The fully articulated implications are serious, with the most concerning implications being wrongful convictions, miscarriages of justice, and the lifelong repercussions for individuals in those situations. Beyond the trial, these actions tarnish from legitimate forensic experts, and pose a serious issue as to the reliability of past convictions. This paper outlines specific steps to take to combat fraud in forensic science and highlights the need for reliable quality assurance systems and serious accreditation standards, continuous development, and an awareness of what needs to be improved to strengthen forensic practice. The emphasis on transparency, independence outside borders, and the need for multidisciplinary collaboration demonstrate a commitment to earn back public trust in forensic practice.

The intent of this research and scope of this paper is simply to protect the core values of the profession (justice, fairness, and truth seeking), using the discussion of fraud in a field with a

real obligation for ethical conduct in forensic science, as an opportunity to forge a more fair and credible forensic practice that safeguards the promise of justice for all. The intent of this article is to encourage active resistance to fraudulent behaviours.

Keywords: Forensic science laboratories, criminal justice system, scientific evidence, laboratory practices, interdisciplinary solutions.

Purpose of the Study

This study will examine case studies and documented instances of forensic fraud to describe the real-world consequences of forensic fraud and to appreciate the diversity of fraudulent acts across a number of forensic disciplines. Further, this study will seek to examine ethical dilemmas forensic examiners face that aid in perpetuating or mitigating fraudulent behaviour. This examination will include, but not be limited to, pressures to obtain results, lack of oversight, insufficient training, and potential conflicts of interest in forensic investigations. In addition, the study will examine current methods and processes to detect and prevent forensic fraud and explore their effectiveness, discuss any other alternatives to improve or innovate in the gaps that are identified. The study will also identify the larger consequences of forensic fraud, including on court proceedings, the criminal justice system, public confidence in forensic evidence, and wrongful convictions due to contaminated forensic practice.

In the end, this study will add insight into the wide-ranging challenges that emerge from the fraudulent behaviours of forensic examiners and put forward recommendations for enhancing the integrity and reliability of forensic science.

Methodology

This study will employ qualitative methods to explore the unethical behaviours of forensic examiners and how these behaviours have impacted forensic science. Semi-structured interviews and a case study analysis will be used to obtain data from forensic experts, defence lawyers, and other key stakeholders in as much detail as possible. Conducted semi-structured interviews with 15 to 20 participants for analysis, including forensic experts, defence lawyers, and prosecutors, as well as examining documented famous cases of forensic experts, defence lawyers, and prosecutors. The selection of cases will be based on cases of confirmed forensic fraud, false reports, and wrongful convictions.

Topic Relevance and need for the research

The message behind this pressing topic is that the dependability of the criminal justice system is questioned when forensic evidence is not dependable, regardless of whether the innocent person is or who the incriminating individual may be. In the United States of America, the National Registry of Exoneration has documented more than 3000 cases where innocent people have been wrongfully sentenced to prison, which is a significant alarm as well as a concern for forensic scientists around the world. The NRE reported that 732 wrongful convictions as of July 2021[12] were due to "false or misleading forensic evidence." There has been a great deal of research that demonstrates academic writings related to forensic science and wrongful convictions, but not much has been developed to inform where the forensic science error originated in these findings. This study will seek to resolve this issue by conducting an analysis of case data and forensic scientific testimony in established cases of wrongful conviction. On the analysis of wrongful convictions, there is clear evidence that misapplied forensic science has contributed to an astounding number of wrongful convictions in the United States.[13] However, wrongful conviction studies can unintentionally exclude circumstances that provide closure to exonerations based on the misunderstanding that all criminal convictions are based on circumstances or credible evidence, but a forensic analysis can be performed, correctly documented, and blame an innocent person. For instance, serology can possibly locate a large number of people with type A blood antigens, but the measure of them can woefully include a considerable portion of the population. Partly contributing to this is the notion that forensic evidence is needed to identify the suspect. The forensic science community may have established a paradigm that created unrealistic expectations.[14]

Case Laws: This research has seen many real-life Indian forensic evidence case laws that have influenced the Indian courts in a negative way, and Indian courts have taken knowledge circumspectly to offer transparent justice.

1. **Nithari Case (2006)**[15] This involved the discovery of multiple human remains in the village of Nithari in Noida. The forensic analysis had been criticized for improper

[12] *The National Registry of Exonerations: Newkirk Center for Science & Society at University of California Irvine, the University of Michigan Law School, & Michigan State University College of Law*, https://www.law.umich.edu/special/exoneration/Pages/about.aspx last visited Aug. 21, 2024).
[13] West & Meterko, *supra* note 8.
[14] Suzanne Bell et al., *A Call for More Science in Forensic Science*, 115 PROC. NATL. ACAD. SCI. 4541 (2018), https://pnas.org/doi/full/10.1073/pnas.1712161115 (last visited Aug 24, 2024).
[15] Betrayal of Public Trust: Court Points out 'Failure' of Investigation in Nithari Case, *India Today* (Oct. 16, 2023), https://www.indiatoday.in/law/story/nithari-case-judgment-court-order-koli-pandher-acquitted-death-penalty-2449824-2023-10-16 (last visited Aug. 21, 2024).

collection of the evidence and time-consuming measures for obtaining the DNA test, which evoked public discontent and raised suspicions of the court's reliance on forensic processes in India.

2. **Aarushi Talwar Murder Case (2008)**[16] The double murder of Aarushi Talwar and Hemraj and the publicity surrounding this case produced an additional debacle. The Crime Bureau of Investigation (CBI) was criticized for its management of the crime scene and its forensic evidence to the extent that manipulation of evidence led to conflicting forensic evidence.
3. **Jessica Lal Murder Case (1999)**[17] Forensic evidence was based largely on ballistic reports as it pertained to the adjudication of a widely publicized case of murder. The trial court found the first reports false, with a not guilty verdict against the accused. However, on April 19, 2010, the High Court overruled the Trial Court decisions, convicted the accused for life, together with a fine of Rs 50,000, which was supported by the Supreme Court.
4. **Priyadarshini Mattoo Case (1996)**[18] The accused was convicted as a result of the reopening of the case involving the rape and murder of a law student. At the initial stage, forensic evidence, including DNA testing, was improperly collected, and he was acquitted, but later forensic practices led to a conviction against the accused.
5. **Sister Abhaya Murder Case (1992)**[19] The murder case of Sister Abhaya, a nun, in a convent in Kerala, India, generated a controversy of criticism over the forensic investigation. Avenues have been congested with allegations of manipulation of evidence, a tardy investigation, and delayed forensic interpretations. Multiple forensic reports based on multiple forensic interpretations have led to drawn-out litigation hurdles. This has resulted in an extended litigation process.

[16] Inside The Still-Unsolved Murder of 13-Year-Old Aarushi Talwar, *All That's Interesting*, https://allthatsinteresting.com/aarushi-talwar (last visited Aug. 21, 2024).
[17] The Infamous Jessica Lal Murder Case, *Law Article*, https://lawarticle.in/case-studies/the-infamous-jessica-lal-murder-case/ (last visited Aug. 22, 2024).
[18] Priyadarshini Mattoo Murder: Shocking Tale of a Crime Over One-Sided Love and Delayed Justice, *ABP Live*, https://news.abplive.com/crime/most-shocking-crimes-priyadarshini-mattoo-murder-case-shocking-tale-of-crime-over-one-sided-love-delayed-justice-cbi-delhi-police-1642185 (last visited Aug. 22, 2024).
[19] 28-Year-Old Sister Abhaya Murder Case: The Longest Running Investigation, *Law Insider*, https://www.lawinsider.in/insight/28-year-old-sister-abhaya-murder-case-the-longest-running-investigation (last visited Aug. 22, 2024).

6. **Sunanda Pushkar Death Case (2014)**[20] The death of Sunanda Pushkar, wife of politician Shashi Tharoor, was clouded with many mysteries and several forensic examinations. The media attention and controversy surrounding conflicting examination results, some concluding poison, others natural death, was enormous.
7. **Ankush Maruti Shinde vs State of Maharashtra (2019)**[21] The bench of 3-judges, Dr. A.K. Sikri, S.A. Nazeer, and M.R. Shah, J.J., delivered a decision in a case where six individuals under the sentence of death have been acquitted and reinvestigated in the occurrence of a crime that occurred in June 2003; the original case concerned five murder victims, and a female rape victim, but rather the accused were falsely accused, and were lower strata of society from nomadic tribes, and were poor labourers, besides the Supreme Court also ordered the State of Maharashtra to pay all the accused Rs. 5,00,000 (five Lakhs each), and pay it as compensation arising from their detention in the original case, upon the deposit by way of cheque with the learned Sessions Court where the accused can be identified properly.

Rationale

The purpose of this research study, "Fraudulent Practices of Forensic Examiners: A Blemish on Forensic Science", is to explore and elaborate on this issue concerning fraudulent conduct by forensic examiners. Unethical and deceitful behaviours employed by examiners are undermining forensic science, which is seen as being at odds with the principles of justice, under increasing scrutiny, undercutting any value that forensic evidence has in the law of evidence, and undermining the general public's confidence in the criminal justice system. The researcher intends to investigate explanations, through case studies and identified acts of misconduct, using patterns and motivators causing this unethical behaviour. In addition, this study also intends to explore how effective the current regulatory frameworks are in preventing and responding to fraud in forensic science.

The study also aims to highlight the broader consequences of unethical behaviour in judicial administration, resulting in wrongful convictions and breaches of the human rights of innocent

[20]Sunanda Death Case: Forensic Experts Asked to Review Findings, *Times of India*, https://timesofindia.indiatimes.com/india/Sunanda-death-case-Forensic-experts-asked-to-review-findings/articleshow/37657791.cms (last visited Aug. 22, 2024).
[21] SC Acquits 6 Falsely Implicated Death Row Convicts in a 16-Year-Old Crime; Orders Reinvestigation, *SCC Online*, https://www.scconline.com/blog/post/2019/03/06/sc-acquits-6-falsely-implicated-death-row-convicts-in-a-16-year-old-crime-orders-reinvestigation/ (last visited Aug. 21, 2024).

people from mistakes in justice. To provide some redress for these problems, the study recommends more stringent oversight and accountability measures, and enforce-take responsibility for the need to reform forensic investigational practices when they can be better. The ultimate ambition of this paper is to elucidate the shadowy aspects of forensic science and generate recommendations to enhance the professional ethos, ethical values, and transparency of forensic science. By implication, to engender greater importance of forensic science in supporting justice and truth in society, and to enhance the public interest in forensic evidence and society.

Existing Knowledge:

Many previous studies have demonstrated that forensic examiners have implicated evidence to influence the basis of evidence and generate appropriate reports of evidence to cover for the accused. Most forensic scientific disciplines (e.g., DNA fingerprints, serology, etc.) were the vehicles for these discoveries. The justice system is reliant upon forensic science, yet dishonest forensic examiners have occurred repeatedly. Forensic scientists have misrepresented what they think they know when it benefits their case. The high-profile cases and various wrongful convictions, along with the mentioned forensic fraud, have fostered a decline in the public interest in forensic science. The acts of fraud included both exculpatory evidence being discarded and fabricated evidence.

Forensic fraud may occur in innumerable different forms, such as removing evidential data from a crime scene, knowingly giving false evidence through data fabrication, and providing false testimony in court. While the factors leading to these behaviours vary, we can identify institutional failure, professional pressure, and individual gain as core contributors. The Indian legal system is already overwhelmed and is not set up to handle the challenges presented by forensic fraud. The system already faces significant problems due to false forensic reports that contribute to wrongful convictions, which highlights the need for stringent review and change, as evidenced by the cases mentioned previously.

The most successful strategies in forensic science, worldwide, showcase policies such as certification that offer significant support for professional development, continuous education, and use of standards to decrease opportunities and encourage a culture of practice that mitigates the risk of fraud or deception. Note that changes will take compliance to implement change with the policies, training, and educational processes, and create some form of independent

oversight bodies. With massive changes needed to eliminate forensic fraud in India, the country can considerably improve its quality of forensic science and therefore public interest in the justice system by applying lessons and adapting some of the successful international practices for the context of the country.

The significance of dealing with forensic examiner misconduct

The examiner's misconduct could be interpreted in many ways to include fraudulent conduct, which could mischaracterize the reports. Understanding these differences is important to appropriately manage forensic fraud and its consequences. We will also examine notorious forensic fraud cases, and how forensic examiners Joyce Gilchrist and Annie Dookhan have had catastrophic consequences to their reputations, legal ramifications, and we will examine them based on their misleading reports. The improvements we would like to see include potential reforms, best practice reforms which include insurance quality control measures/and improvements in monitoring. Ultimately, systemic reform could serve to manage forensic examiner misconduct in India and beyond.

Notorious Forensic Examiners:

Annie Dookhan, In society, Annie Dookhan became notorious for her fraudulent actions as a forensic analyst. The chemist, who worked at the Massachusetts State Drug Lab in Boston, was part of a wide-reaching forensic science scandal. Due to Dookhan's actions, then-Governor Deval L. Patrick (D) permanently closed the William A. Hinton State Laboratory Institute, where Dookhan had worked, in 2012. The Governor's office published research in August that suggested that Dookhan's misdeeds may have impacted approximately 40,000 different cases. Reevaluating cases and evidence has thus far cost those involved in the misdeeds $8.5 million this year to resolve, according to The Boston Globe. As a result of the Dookhan case, 349 inmates had been released from state prison as of October 17, 2012, according to officials. One of those individuals who was freed, Donta Hood, was subsequently charged with murder after he was released. Dookhan was arrested on September 28, 2012. According to a police report that the Boston Globe obtained, she admitted to lying under oath about having a master's degree in chemistry, deliberately tainting drug samples, and often identifying drugs solely by the naked eye without chemical analysis. She initially pleaded not guilty but changed her plea at a later date. In the end, Dookhan pleaded guilty and was sentenced to three to five years in prison. Her case illustrates the potential damage that fraudulent forensic practices cause to the justice

system.[22]

Joyce Gilchrist is the former forensic scientist for the Oklahoma City Police Department, where she has a lengthy experience 21 years of experience evaluating more than 3,000 cases in the criminal court system. She was then charged with evidence tampering and affected the convictions of 23 defendants, of which 11 got death sentences and were executed by hanging. Gilchrist reported that she was terminated from the agency for reporting her colleague's sexual misconduct, and that was what she was being terminated for. Although Gilchrist was poor at reviewing cases, she was known for matching DNA where other forensic experts did not, which is why she was nicknamed "Black Magic." As a witness, she was exemplary in convincing juries, which drove her impressive conviction counts. A notable case in 2001, a landscaper named Jeffrey Todd Pierce was exonerated via additional DNA evidence after being wrongfully convicted of rape, mostly from Gilchrist's evidence. Pierce had no criminal history, had a solid alibi, and had been misidentified in the police line-up, and then spent 15 years in prison before being released and exonerated. After some time passed, Pierce filed a suit against Oklahoma City, naming Gilchrist as a defendant, and additionally, a now-retired district attorney, accused of conspiring to falsify evidence against him. Gilchrist was terminated in September of that year for "deficient casework analysis" and "poor laboratory administration." Gilchrist relocated to Houston, worked for a candle-making company, and passed away on June 14, 2015.[23]

The concept of individualization

Individualization is a critical concept that is vital in terms of forensic science since it will allow a person or object to be established as unique in the wider universe. Without individualization, forensic science in the criminal justice context would lose much of its significance. Forensic experts will be able to declare an exact match between the evidence from the crime scene and evidence from the accused or victim, or the crime. Mathematical certainty cannot be assumed in a criminal trial. It is important to keep in mind that all these conclusions come from probabilistic calculations. At this point, the question is how far introduces an individualization through the forensic application. Studies like the one noted above have claimed that

[22] Carmen Drahl, Former Massachusetts Forensic Chemist Annie Dookhan Sentenced to Three to Five Years in Prison: Forensics: Falsified Drug Test Scandal Threw State's Criminal Justice System into Disarray, *Chem. Eng. News*, vol. 91, no. 48 (Dec. 2, 2013), https://cen.acs.org/articles/91/i48/Former-Massachusetts-Forensic-Chemist-Annie.html (last visited Aug. 22, 2024).
[23] Joyce Gilchrist, *N.Y. Times*, https://www.nytimes.com/topic/person/joyce-gilchrist (last visited Aug. 22, 2024).

individualization is a myth. Michael J. Saks & Jonathan J. Koehler in their writing displayed how the small number sizes do not allow us to demonstrate unique qualities. page 209. It is important to communicate the findings of forensic analysis to the judicial system because the probabilistic calculations prove the strength and importance of forensic evidence. Often in Indian courts the forensic scientific evidence is lacking. In both disciplines, forensic and legal scientists as experts agree that forensic evidence loses value if used in court without the tools of probabilistic calculations, as probabilistic calculations were the only way scientists could communicate information to others. Regrettably for Indian forensic scientists, if their evaluation only shows whether there is a match or not, then it is worthless. Interestingly, for forensic scientists in India, being able to tell the court whether or not the samples collected from the crime scene matched or not is still a point of pride. This is not a sufficient way to determine the probative value of the evidence, as to identify an individual's unique characteristics when they are all compared to individuals with similar characteristics. Any evidence has probative value if it allows you to eliminate everyone as a suspect unless it is the accused. Forensic evidence of probative value must undergo rigorous evaluation to make two claims at the same time, which are, how much incrimination from specific forensic evidence we have to confirm, and how much we disconfirm as facts presented in a specific case. The approach for determining how the two DNA samples are correlated through the comparison of the DNA sample from the suspect that we received from the crime scene. If the two samples matched each other, it could be assumed that the accused is the criminal![24], p. 37.

Factors Affecting Reliability of Forensic Evidence in India:

Forensic science is generally regarded as a reliable discipline in India, but various factors can threaten the reliability of forensic evidence with respect to individual cases.

Examples of such factors may include:

1. No known error rates for all techniques;
2. No appropriate national databases for comparison of evidence;
3. Forensic experts do not agree or disagree, or create absolute or scientific certainty.
4. Technical staff and processes are not accredited.
5. No consolidated research; and
6. No identifiable code of ethics.

[24] The Role and Impact of Forensic Evidence in the Criminal Justice System, 15 INDIAN J. FORENSIC MED. TOXICOL. (2021), https://medicopublication.com/index.php/ijfmt/article/view/17794 (last visited Aug 24, 2024).

The issue of uncertainty with forensic science is not just specific to India; it is a global problem. Compared to other scientific disciplines, forensic science is intertwined with the legal system and cannot provide absolute certainty. Often, legal truth is not the same as scientific truth. Scientific truth possesses some level of repeated confidence over claims and allows exposure to probabilities. Legal truth, by contrast, will never use the basis of absolute certainty in regard to the facts. As Craig (2010) has pointed out, "Public crime laboratories are not laboratories of science." [25](p. 442). Yet forensic labs deal almost exclusively with tampered, partial, distorted, blurry, and whatever type of contamination is present, so the public usually does not trust it. Also, the examiner's interpretation is a factor when forensic identification procedures involve sample matching. Different experts will interpret differently, and this can lead to errors during the comparative process of different characteristics between two samples. A human is a large variable affecting forensic evidence's reliability factors. Moreover, there exists a significant absence of empirical and peer-reviewed research studies to substantiate the majority of forensic techniques, which have mostly been determined by past use in a courtroom, rather than in scientific literature. A good example of this is fingerprinting, which holds no firm scientific underpinning, but has gained the trust of the judiciary simply because of its use in the past.[26] Additionally, Forensic science, similar to other fields of science, can fall victim to neglect and scrutiny. In fact, many countries have historically treated it without due credit and restricted it to the coffers of police or the legal strategies employed by lawyers. The inability for the government to fund research into all aspects of forensic science can also be attributed to the unarticulated code of conduct and inability to carry it out. In many cases, the absence of an ethical code of conduct for forensic scientists has opened the doors to bias, bribery and expert bias. There should be more state restrictions in place to inhibit experts from offering defence services. Rigorous protocols need to be allowed to be used for all forensic techniques(!) to eliminate bias. Something needs to be done about the current limited credibility of forensic science in India and its continuing role in the criminal justice system - it has now become evident that India must create a framework for a code of conduct in forensic science so that citizens can be better protected from wrongful convictions. ***In the U.S., the National Institute of Forensic Science (NIFS) has suggested that individual organisations combine a national***

[25] Craig M. Cooley, *Nurturing Forensic Science: How Appropriate Funding and Government Oversight Can Further Strengthen the Forensic Science Community*, 17 TEX. WESLEY. LAW REV. 441 (2011), https://scholarship.law.tamu.edu/txwes-lr/vol17/iss4/4 (last visited Aug 24, 2024).

[26]Paul C. Giannelli, *Scientific Evidence in Civil and Criminal Cases* (2001), in Faculty Publications, No. 218, Case W. Res. Univ.Sch.L.,https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=1217&context=faculty_publications(last visited Aug. 24, 2024).

code of conduct for forensic science in their professional codes of conduct. The NIFS also suggested there is a very strong need for a suitable framework for implementing the code, committing to serious moral violations. [27]

A common concern with forensic services is being able to secure quality forensic services. Many elements contribute to the quality of the evidence: the reliability of the methodology, or anything that serves as a quality check of some sort, the skill set provided by the scientists, and the standard operating practice. Things such as professional certification of the method and crime laboratory certification. Any deficiency in these elements can have a straightforward effect on the quality and reliability of the results from a test. Niche ways to assess overall quality can be competency tests applied to either the scientific staff or the crime labs. National bodies like the National Accreditation Board for Testing and Calibration Laboratories (NABL) in India, or NIFS in the US, can provide oversight as a more formal assessment.

Factors Contributing to Forensic Fraud:

Some of the variables that are more likely to affect investigation reports may include;

1. **Believing in Perfection:**

   Courtroom scenes and forensic shows on television give the impression of unerring forensic science; this is ingrained into the public realm and creates unjustifiable standards. The pressure of this may also have ramifications for forensic scientists, giving in to the impression that they are infallible and should fear losing the trust in their name.

2. **Damaging the Public Faith in the System and Justice:**

   When forensic scientists tamper with evidence, it directly damages social justice for the innocent people who suffer from the wrongdoing. The criminal justice process will experience disruption by wrongful convictions. Although the hostilities primarily carried out to clear the debris will fall on the tax power, the guilty can be guilty instead.

3. **Professional and Personal Growth:**

   Some forensic examiners act unethically in a self-serving manner. They may be teaming towards evidence fabrication as an expression of professionalism, for the pursuit of money, or notoriety. Unfortunately, greed can destroy the way of life within forensic science itself.

[27] *Strengthening Forensic Science in the United States: A Path Forward* (Nat'l Research Council ed., 2009), https://www.google.co.in/books/edition/Strengthening_Forensic_Science_in_the_Un/6clxAgAAQBAJ?hl=en&gbpv=0 (last visited Aug. 24, 2024).

4. **Poor Oversight and Management:**

   Lack of adequate oversight plays a key part on potential wrong-doing as a result of inaction. focus on having effective oversight, accreditation, independence, and certification from law enforcement even more relevant when it comes to this research because without even this would mean only low levels of independence. even less would be done to perpetuate wrong-doing.

5. **Apathy and Negligence:**

   Obtaining forensic analysis requires diligence, following protocols, and paying attention to detail. Potential problems faced by some examiners are using shortcuts, due to either apathy or haste. Discrepancies in findings in phases and mismatches must be managed for the results to be relied upon.

Proposed Suggestions and Best Practices:

While fraud in forensic science is a recognized issue, there is too much entrenched interest and not enough consensus on how to remedy it. Some have advocated for more regulation and oversight of forensic laboratories, while others have suggested increased training and certification of forensic examiners. In the context of criminal justice, the researcher will hold the Forensic Expert fully accountable for the test outcome if, later, the court evidential future that the proposed result was fabricated. The relationship between the previously noted suggestions and wrongful convictions was not going to be assumed in this article. Mostly, discipline-specific studies have been descriptive rather than empirical. As such, this paper calls for more empirical studies so that the findings are more concrete. However, some of the suggestions may be beneficial to forensic experts and examiners for better outcomes, and/or to ensure miscarriages of justice do not occur, such as:

Increased Supervision and Accountability: Increased regulatory supervision of forensic laboratories is needed to ensure compliance with acceptable standards of practice and for the ethical functioning of individuals working in the forensic domain.

Mandatory Certification & Continuing Education: Forensic examiners must be certified via processes that include clinical requirements and must show evidence of ongoing education on ethical practice and conduct, and also professional development.

Independent Quality Assurance: There needs to be a body or committee that has no affiliation with forensic laboratories that reviews and audits forensic practice, reviews examined cases, and reviews forensic findings to ensure credibility, accuracy, and confirmatory evidence.

Transparent Reporting: Forensic reporting should require transparency in terms of methods

employed and the findings reported, regarding potential conflicts of interest. This will increase integrity and accountability.

Peer Review Processes: Forensic analysis should be peer reviewed, or assessed via some other review process, to ensure methodology is verified and that the conclusions reported are accurate.

Standardization of Practices: Forensic practices should occur at a national and international level to ensure that practices and methodologies cannot differ and variability or error is eliminated in light of the conclusion drawn.

Education on Ethics and Rules of Conduct: Ethics training programs with ethical standards for forensic science should be implemented, and therefore contribute to an increase in ethical behaviour and professionalism.

Whistleblower Protections: Legislation may need to be developed to protect whistleblowers reporting fraudulent or unethical activities in forensic laboratories.

Transdisciplinary collaboration: Forensic scientists, lawyers, and policymakers should work together to close the gap and improve how forensic evidence is used in the courtroom.

Public Awareness and Education: Individuals in the public and legal/ policy makers should be educated on the limitations of forensic evidence and their biases in a manner that contributes to informed and logical decision making while improving their reliance on scientifically flawed methodologies.

Conclusion of the study

A unifying challenge for forensic science is that it is often the critics and practitioners who are opposed to each other, which hinders a more lucid communication about the relevancy and state of forensic scientific techniques today. The National Registry of Exonerations (NRE) publishes the annual exoneration report. The report shows that the practice of forensic science is not what typically drives erroneous convictions to happen today, and provides guidance on where forensic science techniques should improve. The study goes even deeper into the specific types of errors related to forensic evidence and makes a more nuanced commentary on the challenges to curb erroneous convictions in the future by developing a framework to study forensic science errors, categorizing errors, and identifying their root causes, and suggesting appropriate developments in the practice of forensic science. The study stresses the efforts still required to close the gap between forensic science research and advancement in the practice as it aspires to, and provides its best practices to ensure forensic evidence is credible and accurate

within the criminal justice system. The paper identifies the drivers of forensic fraud by the forensic examiner and moves to make a case for the significance of the forensic examiner continuing to investigate, deliver reports, and implement change to fix errors, increase standards, and prevent erroneous convictions resulting from forensic evidence that is unknowingly erroneous or misleading. The paper highlights the prevalence of 'bad apples' in all disciplines and the necessity for routine scrutiny and transparency by the judiciary, so there is added accountability and less scrutiny on forensic services. ***In the case of Dharam Deo Yadav v. State of Uttar Pradesh,***[28] the Indian Supreme Court confirmed the essence of forensic scientific evidence in the event of a crime occurrence by serious and planned criminal acts, and whether the Indian judiciary system will uphold the ban on convicting due to erroneous forensic evidence. The paper raises concerns about the fallacy of individualization relating to the use of forensic science, particularly random sampling makes it logically impossible to prove the uniqueness of individuality. The importance of conveying effectively to the court the validity and relevance of scientific determinism, which is lacking in the current forensic system in India. The exploratory study article attempts to promote more enhanced interaction between scientific understanding and legal or scientific evidence to effectively address issues and pitfalls that compromise the credibility of scientific evidence from the crime scene information to the time of trial.

The fact that these weaknesses need to be addressed urgently is underscored by the caution that huge miscarriages of justice could occur if the deficiencies in forensic science are not remedied. To bridge the distance between forensic laboratory operational practices and social-legal solutions, this paper has shown that interdisciplinary approaches are needed to deal with the challenges of governance in forensic science, with a focus on empirical research approaches, regulation, and laboratory processes. The central argument of the study emphasizes and justifies the urgent need for significant changes and collaboration between disciplines in the management of forensic science laboratories in India by arguing that the strength of the forensic science system lies within its weaknesses.

[28] *Dharam Deo Yadav v. State of Uttar Pradesh, https://indiankanoon.org/doc/39335671/ (last visited Aug. 24, 2024).*