

Dr. Komal Saini



Professor and Head

Department of Forensic Science

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SUMMARY

Date of birth: 11.07.1967

Educational Qualification: M.Sc., Ph.D. (Forensic Science)

Area of Specialization: Questioned Documents

Ph.D. awarded on Title: “A Study of various factors influencing Handwriting”.

Subjects Taught: Questioned Documents Examination, Forensic Ballistics.
Awarded with *UGC NET* in 1996.

Number of years of experience in teaching: about 22 years

Number of Ph.D. supervised: 10

Degree awarded: 7

Thesis submitted: 1

Registered: 2

TOPICS of Ph.D. THESIS:

1. Forensic Examination of Photocopied Documents
2. Evaluation Of Some Methods For The Determination Of Sequence Of Intersecting Strokes
3. Forensic Studies on Computer Manipulated Documents using Image

Processing Techniques

4. Forensic examination of English handwriting of persons from different states of India
5. Forensic studies on writing inks
6. Forensic examination of effect of ailments on handwriting/signatures
7. Forensic examination of the Facsimile documents to determine the source media
8. Forensic Differentiation and determination of age of gel pen ink writings

Number of M.Sc. dissertations supervised: About 57

Number of conferences/seminars/symposia attended: 23

Number of papers published: 50

Number of Books Published- 2

Number of chapters in Books:1 published;4 (accepted)

Membership of Professional Bodies/Organisations:

Indian Academy of Forensic Science

Indian Science Congress Association

Punjab Academy of Sciences

ACADEMIC EXCELLENCIES

- **Chairman, Admission Committee of Department** of Forensic Science, 1st term: from July, 2017-Aug, 2019; 2nd term Jan, 2024 onwards
- **Chairman, Board of studies of Department** of Forensic Science 1st term: from July, 2017-Aug, 2019; 2nd term Jan, 2024 onwards
- **Chairman, Research Board of Department** of Forensic Science 1st term: from July, 2017-Aug, 2019; 2nd term Jan, 2024 onwards
- **Chairman, ACD of Department of Forensic Science** 1st term: from July, 2017-Aug, 2019 ; 2nd term Jan, 2024 onwards

- **Member, Board of studies** in the Department of Forensic Science since August, 2003.
- **Member, Board of studies** in Department of Criminology and Forensic Science, Dr. Harisingh Gaur Vishwavidyalaya, Sagar, M.P.
- **Member, Board of studies** in Aditya Degree College, Surampalem
- **Member, Academic Council of Punjabi University** for 2018 and 2019.
- **Member, ACD of Department** of Forensic Science since August, 2003.
- **Member, Faculty of Physical Sciences** since August, 2003.
- **Member, Research Board of Department** since August, 2003.
- **Member, Admission Committee of Department** of Forensic Science since August, 2003

PROJECTS UNDERTAKEN

DST Project under women scientist scheme A (WOS-A) Entitled “Forensic identification and detection of fraudulent photocopies” 2005

BOOKS/CHAPTERS IN BOOKS

1. Saini K. Study of Various Factors Influencing handwriting” 2015, Lambert Academic Publishing, ISBN-978-3-659-76622-0
2. Saroa, J.S. and Saini, K. “Forensic examination of Photocopies/ laser printouts: their nature, source and authenticity,” 2014, Lambert Academic Publishing, ISBN-978-3-659-62086-7
3. Singla, AK, Saini, K., Jasuja, OP, and Singh, S., “A comparison of line Quality Defects attributed to defective writing instruments and forgery,” *Handbook of Forensic Science; edited by Prof. (Dr.) Vimala Veeraraghavan;* 2004, Selective and Scientific books; New Delhi.

4. Gupta, V., Rathor, R., Saini, K. Differentiation and Determination of the Age of Handwritten Documents Using Gas Chromatography-Mass Spectroscopy. *Instrumentation in Forensic Science: Analytical Tools for Justice*. Apple Academic Press, Inc. (Accepted).
5. Saini, K., Aniket, H., Gupta, V. Examination of Digitally Captured Signatures and Writings. *Advances in Questioned Document Examination: From Handwriting to Digital Documents*. CRC Press. (Accepted).
6. Saini, K., Gupta, V., Kaur, R., Aniket, H. Forensic Determination of Sequence of Writing Strokes. *Advances in Questioned Document Examination: From Handwriting to Digital Documents*. CRC Press. (Accepted).
7. Saini, K., and Manpreet Kaur., Effect of old age and illness on handwriting characteristics. *Advances in Questioned Document Examination: From Handwriting to Digital Documents*. CRC Press. (Accepted).

RESEARCH PUBLICATIONS

1. **Gupta, V., Aniket, H., Shivangi, Saini, K.**, “Forensic Importance and advancements in Microscopic Examination of Questioned documents,” *Forensic Science Review*, 2025; 37, 51-65.
2. **Gupta, V., Kaur, J., Saini, K.**, “Discrimination of Pen Inks using Thin Layer Chromatography and UV-visible Spectroscopy”, *Turkish Journal of Forensic Medicine* 2024; 38(3), 183-194.
3. **Gupta, V., Singh, G., Saini, K.**, “Determination of the Age of Gel Pen Inks on Handwritten Documents using Gas Chromatography-Mass Spectrometry and Chemometrics”, *Journal of Forensic Document Examination* 2024, 15-24.
4. **Saini, K., Kaur, R., Gupta, V., Kaur, M.**, “A Study to Establish the Sequence of Intersecting Strokes using Infrared Luminescence”, *Turkish Journal of forensic Medicine* 2023; 37(2):56-64.

5. **Saini, K., Dutta, T., Sood, S., Saini, T., Kaur, N., Gupta, V.**, “A Comparative Study on Class Characteristics of Devanāgri Script Writers from Three Different States of India”, *Arab Journal of Forensic Sciences and Forensic Medicine*, 2023; 5(1):74-88.
6. **Gupta, V., Saini, K., Sharda, S.**, “Studying the Methods to Determine the Age of Ink: A Critical Review of Ink Dating Methods”, *Arab Journal of Forensic Sciences and Forensic Medicine*, 2023; 5(1):2-33.
7. **Saini, K., Kaur, M., Gupta, V., Rathor, R., Sharda, S.**, “Gender Determination in Saini Community of Punjab based on Fingerprint Ridge Density”, *Indian Journal of Physical Anthropology and Human Genetics*, 2021; 40(2): 159-171
8. **Gupta, V. and Saini, K.**, “Determination of the Chronological Order of a Laser Printing and Gel Pen Writing without any Crossing Strokes”, *Journal of Forensic Science*, 2020;65(4):1337-1341.
9. **Saini K., Kaur A. and Kaur M.**, "Forensic comparison of full signatures with initials", *Indian Journal of Physical Anthropology & Human Genetics*, 2022; 41 :(1), 2022
10. **Kaur M., and Saini K.** “Forensic examination of effect of Parkinsonism on various handwriting characteristics,” *Science and Justice*, 2022; 62: 10-20
11. **Saini T and Saini K.**, “The frequency of occurrence of selected features in hand-printing and cursive or mixed handwriting styles in the Indian population,” *Indian Journal of Physical Anthropology & Human Genetics*, 2021; 40 (2): 195-202
12. **Saini K, Kaur M, Gupta V, Rathore R, and Sharda S**, “Gender determination in Saini community of Punjab based on fingerprint ridge density” *Indian Journal of Physical Anthropology & Human Genetics*, 2021; 40 (2): 159-171
13. **Saini K., Sharma B and Kaur M.**, “Forensic examination of effects of rheumatoid arthritis on handwriting characteristics,” *Egyptian journal of*

forensic science, 2021; 11-19

14. **Gupta V., Saini K.**, Determination of the Chronological Order of a Laser Printing and Gel Pen Writing without any Crossing Strokes. *Journal of Forensic Science*, 2020; 65(4): 1337-1341.
<https://doi.org/10.1111/1556-4029.14302>
15. **Saini, K. And Gupta M.**, “Effect of Enlargement and Reduction Parameters for Identification of Source Media: Studies on Fax Documents.” *International Journal of Statistics and Reliability Engineering*, 2020; 9 7 (2): 249–252
16. **Saini K., Kaur N.**, Forensic Examination of Handwritten Arabic Numerals of Three Different States. *Indian Journal of Physical Anthropology and Human Genetics*, 2019, 38(2): 137-146.
17. **Threja M., Saini K., Singh M.**, A study of the effect of unusual writing instruments and surfaces on handwriting characteristics, *Problems of Forensic Sciences* 2019; 118: 123-140.
18. **Saini K., Rathore R., Kaur R, Sharma T , Kaur S.**, “Establishing sequence of inkjet printer, laser printer and writing ink strokes using scanning electron microscopy (SEM)” *Arab Journal of Forensic Sciences & Forensic Medicine*, 2019; Accepted
19. **Saini K. and Kaur M.**, “Forensic study on the effect of age and illness (Parkinsonism) on handwriting characteristics,” *Egyptian journal of forensic science*, 2019; 9-24
20. **Saini K. and Kaur N.**, “Forensic Examination of Class Characteristics in English Handwriting of the Three States: Andhra Pradesh, Punjab and Kashmir in India,” *Arab Journal of Forensic Sciences & Forensic Medicine*, 2018; Volume 1 (8); 1034-1047
21. **Saini K, and Rathore R.**, “Identification of volatile components of gel-pen inks through gas chromatography mass spectrometry”, *Forensic Chemistry*, 2018, vol.11; 98–102

22. **Saini K, and Rathore R.**, “Differentiation of Red and Black Ballpoint Pen Inks using High Performance Thin Layer Chromatography and Gas chromatography-Mass Spectrometry”, *Arab Journal of Forensic Sciences & Forensic Medicine* ,2018; Volume 1 (7); 829-841
23. **Saini K, and Rathore R.**, “Differentiation of Gel Pen Inks By Using High Performance Thin Layer Chromatography and Gas Chromatography-Mass Spectrometry”, *Malaysian Journal of Forensic Sciences*, 2018, 8(2):10-17
24. **Saini K. and Kaur S.**, “Examination of Digitally Manipulated Documents Using MATLAB 7.10.0 and Adobe Photoshop 7.0,” *Problems of Forensic Sciences*, 2018, vol. 111; 31–44
25. **Saini K. and Kaur S.**, “Forensic Colour Differentiation of Ink Strokes using Image Processing Techniques” *Malaysian Journal of Forensic Sciences*, 2018, 8(1);24-28
26. **Saini K, Singh V, Kaur M and Sharda S**, “A study of the effect of substrate on dot matrix printing”, *Nowa kodyfikacja prawa karnego*.
27. **Saini, K. and Kaur N.**, “Forensic Examination of handwritten Arabic numerals,” *Indian Journal of Physical Anthropology & Human Genetics*, 2017, Vol 36(1); 85 100
28. **Saini, K. and Saroa, J.S.**, “Determination of the authenticity of photocopied Documents” *Problems of Forensic Sciences*, 2016, vol. 108; 623–631
29. **Saini, K. and Saroa, J.S.**, “Characterization of Printing Characteristics of Color-Photocopied and Laser-Printed Documents,” *Journal of Forensic Identification*, 2016, Vol. 66 (2); 155-170
30. **Saini K.,Rathore R.,Saini A.** “Forensic analysis of Toners by Thin Layer Chromatography and High Performance Thin Layer Chromatography” *Res. J. Forensic Sci.*, 2016, Vol. 4(3);6-20.

31. **Saini K. and Kaur S,**“Forensic Examination of Computer Manipulate Document by Image Processing Technique,” *Egyptian journal of Forensic Sciences*, 2016, Vol.6; 317–322
32. **Saini, K., Heer, H. K. and Rathore, R.** “Differentiation of Inkjet Printer Inks by Thin Layer Chromatography and High Performance Thin Layer Chromatography”, *Research Journal of Forensic Sciences* 2015, Vol. 3(7); 1-7
33. **Saini K.** Study of Various Factors Influencing handwriting” 2015, Lambert Academic Publishing, ISBN-978-3-659-76622-0
34. **Saroa, J.S. and Saini, K.** “Forensic examination of Photocopies/ laser printouts: their nature, source and authenticity,” 2014, Lambert Academic Publishing, ISBN-978-3-659-62086-7
35. **Saini, K. and Kaur, H. and Gupta, M.,** “Analyses of Blue Gel Pen Inks Using Thin Layer Chromatography and Visible Spectrophotometry” *Journal of Forensic Identification*, 2014, Vol.64 (1); 28-42.
36. **Saini, K. and Saroa, J.S.,** “Physical Examination of Photocopied Documents” *Problems of Forensic Sciences*, 2013, Vol.94; 485-501.
37. **Kaur, R. and Saini, K. and Sood, NC,** “Sequencing the intersections of printed strokes with writing instrument strokes using DocuCentre expert (PIA 6000-EDF)” *Science and Justice*, 2013, Vol.53; 206-211.
38. **Kaur, R. and Saini, K. and Sood, NC,** “Application of Video Spectral Comparator (absorption spectra) for establishing the chronological order of intersecting printed strokes and writing pen strokes” *Science and Justice*, 2013, Vol.53; 212-219.
39. **Saini, K. and Saroa, J.S.,** “Differentiation of color Photocopy Toners using TLC, UV and FTIR techniques,” *Journal of Forensic Identification*, 2011, Vol.61 (6); 561-580

40. **Saini, K. and Saroa, J.S.**, “Determination of generation of photocopy by image processing” *Problem of Forensic Science*, 2011, vol. LXXXIV, 315–325.
41. **Saini, K. and Saroa, J.S.**, “Discrimination Potential of UV and FTIR Spectroscopy for the analysis of Black Photocopy Toners” *International Journal of Pharma Recent Research*, 2010, 2(2); 40-51
42. **Saini, K. and Kaur, R. and Sood, NC**, “A study for establishing the sequence of superimposed lines: inkjet versus writing instruments,” *Forensic Science International*, 2009, Vol. 193; 14-20.
43. **Saini, K. and Kaur, R. and Sood, NC**, “Determination of the sequence of intersecting gel pen and laser printed strokes-A comparative study,” *Science and Justice*, 2009, Vol. 49; 286-291.
44. **Saini, K. and Singh, A.**, “The Evaluation of Handwriting Features in Photocopied Signatures,” *Internet Journal of Forensic Science*, 2009, Vol. 4(1); 1-10.
45. **Saini, K. and Saroa, J.S.**, “Thin layer Chromatography of Refilled photocopier toners” *Journal of Forensic Identification*, 2008, Vol. 58(3); 305-316
46. **Saini, K., Saroa, J.S. and Hundal, G.S.**, “Thin layer Chromatography of inkjet printer inks” *The Indian Journal of Criminology and Criminalistic* Jan.-April 2007, Vol XXVIII (1); 74.
47. **Singla, AK, Saini, K., Jasuja, OP, and Singh, S.**, “A comparison of line Quality Defects attributed to defective writing instruments and forgery,” *Handbook of Forensic Science; edited by Prof. (Dr.) Vimala Veeraraghavan*; 2004, Selective and Scientific books; New Delhi.
48. **Saini, K., Jasuja, OP, Singla, AK and Singh, S.**, “A Study of the handwriting of visually impaired persons,” *International Journal of Forensic Document Examiners*, Jan/Dec 1999, Vol.5; 39-53

49. **Jasuja, OP, Saini, K.**, “Examination of Gurmukhi script; a preliminary report” *Science and Justice*, 1996, 36: 9-13
50. **Chahal K, Chattopadhyay P.K. and Thakar M.K.**, “Medulla Types of Hair: A Population Study”. *Indian Anthropologist*. 1993, 23(1):” 87-90
51. **Thakar M.K, Chahal K, and Chattopadhyay P.K.**, “Inheritance of Medulla Types” *Proc. Indo-Pacific Congress on legal Medicine and Forensic Science, Madras, 1989:168-169*
52. **Chahal K. And Chattopadhyay, P.K.**, “Determination of Blood Groups Specific ABH Substances from Lip prints’ *Jnl. I.A.M.*, 1989, 11(2): 60-61.

PLANNARY LECTURES / INVITED LECTURES DELIVERED (LAST TWO YEARS)

- Lectures delivered at various universities
- 2 Lectures delivered on topics entitled ”Forensic examination of Laser printed and photocopied documents” and “ Determination of Authenticity of photocopied documents” at **3-day workshop on Forensic documents**, 10th – 12th April 2017 Organised by Sardar Vallabhbhai Patel National Police Academy, Hyderabad.
- Lecture delivered on topic entitled “Study of the effect of substrate on dot-matrix printing” at 17 Wroclaw International symposium on questioned document examination 15-17 June 2016, Poland.
- LECTURE DELIVERED AT REFRESHERS COURSE TO TEACHING FACULTY AND ACADEMIC STAFF AT ACADEMIC STAFF COLLEGE, PUNJABI UNIVERSITY, PATIALA. PUNJAB.
- Invited lectures delivered at Maharishi Dayanand University, Rohtak, Haryana.
- Lecture delivered on topic entitled ”Forensic examination of photocopies from their physical characteristics’ at **International Conference on Questioned Document Examination** 10th – 12th January 2015 Organised by department of Forensic Science, Punjabi University Patiala

12. UGC – SAP.

PARTICIPATION IN CONFERENCES, SEMINARS, WORKSHOPS AND SYMPOSIA

- **Silver jubilee celebrations of the Indian Academy of Forensic science** at Patiala from 3-6 Oct., 1986.
- **Symposium on Questioned Document & Handwriting Examination** at Punjabi University, Patiala, from 8-9 April, 1988.
- **National Meeting of Young Scientists & Research Fellows** on Impact of Science on Human Welfare at Punjabi university, Patiala from 17-19 Jan., 1989.
- **11th Annual Conference of the Indian Academy of Forensic Medicine** at M.K.C.G. Medical College. Berhampur, Orissa from 2-4 Feb., 1989.
- **SAARC Workshop on Forensic Science** at Punjabi University, Patiala, from 4-7 Oct., 1995.
- **83rd Session of Indian science Congress** at Punjabi university, Patiala from 3-8 Jan., 1996.
- **84th session of Indian Science Congress Association** at Delhi from 3-8 Jna., 1997
- **International symposium on Forensic Science** organized by Department of Forensic Science, Punjabi University, Patiala, 2001.
- **International Symposium on Forensic Science** at Punjabi University, Patiala from 14-17 Feb., 2002.
- **XV All India Forensic Science Conference** organized by Directorate of Forensic Science, Ministry of Home Affairs, Govt. Of India Forensic Science Laboratory, Harayana, Madhuban, 2004.
- **National workshop on Forensic Facial Reconstruction** organized by Department of Forensic Science, Punjabi University, Patiala, 2005

- **National symposium on Cyber Forensic and Computer crimes** organized by Department of Forensic Science, Punjabi University, Patiala 2006.
- **International Symposium in Advances in Fingerprint Identification**, organized by Department of Forensic Science, Punjabi University, Patiala, 2008.
- **International Symposium on Emerging Trends in Forensic Science** (22-24 Feb. 2010) Organised by – Department of Forensic Science, Punjabi University, Patiala (India)
- **Science & Technology Entrepreneur Park** (November 21-22, 2011) workshop on High performance Thin Layer Chromatography held at STEP, Thapar University, Patiala.
- **UGC-Sponsored Workshop on Disaster Management** (November 14-21, 2013) held at Punjabi University, Patiala.
- **International Symposium on Emerging Paradigms in Forensic Science** (7 – 9 March 2013) Organised by – Department of Forensic Science, Punjabi University, Patiala (India) and University Grants Commission (SAP Programme), New Delhi.
- **Seminar on HPLC method Development and Validation** (27 November, 2014) held at National Institute of Pharmaceutical Education and Research (NIPER) Sector 67, S.A.S. Nagar, Punjab.
- **3rd Annual Conference of Indo- Pacific Association of Forensic Odontology** (19-20 January 2014) Organised by – Indo – Pacific Association of Forensic Odontology, held at Punjabi University, Patiala
- **International Conference on Questioned Document Examination** 10th – 12th January 2015 Organised by department of Forensic Science, Punjabi University Patiala 12. UGC – SAP
- **Seminar on Forensic Toxicology** 5 th September 2015 Organised by Department of Forensic Science, Punjabi University Patiala

- **International Fingerprint Research Group Meeting** 19th – 23rd October 2015 Organised by Department of Forensic Science, Punjabi University Patiala
 - **17th Symposium of Questioned Document Examination** organised by Department of Forensic Sciences Faculty of Law, Administration and Economics, University of Wroclaw (Poland) from 15 – 17 June 2016
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