# **CURRICULAM VITAE OF DR. MUKESH KUMAR THAKAR**

Name : MUKESH KUMAR THAKAR

Father Name : HARBANS LAL THAKAR

Date of Birth : November 9, 1964

Present Address : Professor and Head,

**Department of Forensic Science,** 

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Patiala-147002, Punjab, India

# **EDUCATIONAL QUALIFICATION**

- Ph.D. (1993) in Forensic Science from Punjabi University, Patiala, Thesis entitled "Identification from Hair: A Study of Some Morphological and Serological Characteristics".
- Master of Science (1987) in **Forensic Science** from Punjabi University, Patiala in First Division (with specialization in Forensic Biology and Serology) M.Sc. Dissertation entitled "**Determination of Blood Groups from Saliva of Paan Chewing Individuals**".
- Bachelor of Science (Major Botany, Chemistry and Zoology) in 1985 from Punjabi University, Patiala in First Division.

# Areas of Research:

Forensic Science, Forensic Biology and Serology including DNA Profiling, Criminalistics, Fingerprints and Crime Scene Investigation

#### **EXPERIENCES:**

# **WORK EXPERIENCE:**

#### **ADMINISTRATIVE EXPERIENCE:**

- **1.** Joined **Second term** as **Head**, **Department of Forensic Science**, **Punjabi University**, **Patiala** the second oldest department of India and first of north India, from 12-08-22.
- **2.** Successfully completed **first term** as **Head**, **Department of Forensic Science**, **Punjabi University**, **Patiala** the second oldest department of India and first of north India, from 12-08-07 to 11-08-2010.

During these three-year tenure as HOD, the following important events were organized:

- ❖ Organized Two International Symposium on different aspects of Forensic Science
- ❖ Established Cyber Crime Laboratory in the department, which was inaugurated by S. M.S. Gill, DGP of Punjab
- Organized successfully, three days course on *Cyber and Computer Crime Investigation* for Gazetted Punjab Police Officers (not below the Rank of DSP) only
- \* As a Local Coordinator, organized a three day Regional Workshop on Research as Pedagogy a Science Teacher Education programme (RAP a STEP) for teachers of undergraduate science courses. Which was sponsored by MHRD supported Center of Excellence for science and Math (COESME) of IISER (Indian Institute of Science and Research), Pune and Department of Biotechnology (DBT), Govt. of India at Punjabi University, Patiala from September 29 to October 1, 2016.
- ❖ Member/nominee of Vice Chancellor/Registrar/Dean Academic Affair/Dean, Academic Affair for many different committees of the university.

# **ACADEMIC EXPERIENCE:**

- ❖ Presently working as a **Professor** in the Department of Forensic Science, Punjabi University, Patiala since August 12, 2010.
- ❖ Worked as an **Associate Professor** in the Department of Forensic Science, Punjabi University, Patiala from August 12, 2007 to August 11, 2010.
- ❖ Worked as a **Reader** in the Department of Forensic Science, Punjabi University, Patiala from 12-08-04 to 11-08-2007.
- ❖ Worked as a **Lecturer** (**Senior Scale**) in the Department of Forensic Science, Punjabi University, Patiala from August 12, 1999 to August 11, 2004.
- ❖ Worked as a **Lecturer** in the Department of Forensic Science, Punjabi University, Patiala from August 11, 1995 (A.N.) to August 11, 1999.

#### FIELD EXPERIENCE:

❖ Worked as Scientist Incharge, Field/Mobile laboratory Unit, Bulandshahr District of Forensic Science Laboratory, U.P., Lucknow from May 13, 1991 to August 10, 1995. During this service, major responsibility was to visit the *scene of heinous crimes (CSI)* committed in the district Bulandshahr (Uttar Pradesh state) and help the police in conducting scientific investigation of crime.

# **ORGANISATIONAL SKILL**

- ❖ As HOD and the Chairman of the symposium organized an "International Symposium on advances in Fingerprint Identification" at Department of Forensic science, Punjabi University, Patiala from February 8-10, 2008.
- ❖ As HOD and the Chairman of the symposium Organized an" *International Symposium* on *Emerging Trends in Forensic Science*" at Department of Forensic Science, Punjabi University, Patiala from February 22-24, 2010.
- ❖ As HOD and Chairman, Organized Three Days Course on *Cyber and Computer Crime Investigation* for Gazetted Police Officers at Department of Forensic Science, Punjabi University, Patiala from **July 24-26, 2010**
- ❖ As an Organizing Secretary Organized an *International Symposium on* Emerging Paradigms in *Forensic Science*" at Department of Forensic Science, Punjabi University, Patiala from March 7-9, 2013.
- ❖ Organized as a member of organizing committee an **International Conference on Questioned Document Examination** at Department of Forensic Science, Punjabi University, Patiala from **Jan 10-12, 2015.**
- ❖ Invited as an expert at the 'Scientific Investigation in Forensics' to deliver invited talk and conducted field training session, organized by the University institute of Bio and Pharma Sciences, Chandigarh University, Gharuan, Mohali, Punjab, India.
- ❖ Conducted a one-day workshop 'Role of Forensic Science in Administration of Justice' as a resource person organized by the department of Law, Punjabi University, Patiala on 02-03-2017.

#### MAJOR CONTRIBUTIONS

1. Contributed one chapter to U.K's JOHN WILEY'S ENCYCLOPEDIA of FORENSIC SCIENCE (Available both On-line and Physical form), on "DIATOMS," which have been published by John Wiley & Sons Ltd. (U.K.).

- 2. Thakar MK, Joshi B, Shrivastava P. (2020) Usefulness of Mini-STRs in analyzing degraded DNA samples and their forensic relevance, Published in Shrivastava, P., Dash, H.R., Lorente, J.A., Imam, J. (Eds.), Forensic DNA typing: Principles, Applications and Advancements, by Springer pp205-222 doi 10.1007/978-981-15-6655-4.
- **3.** Thakar MK and Sharma (2020) The Utility of DNA Barcoding Technology in the Authentication of Medicinal Plants in Illegal Trade: A Critical Review, published n Shrivastava, P., Dash, H.R., Lorente, J.A., Imam, J. (Eds.), **Forensic DNA typing: Principles, Applications and Advancements, by Springer**, pp405-429 10.1007/978-981-15-6655-4\_21.
- **4.**Member of Expert Panel/Group conducting Interviews, Paper settings of the central and States Public Service Commissions, and many central and States Universities.
- **5.**Member of Boards of Studies responsible for Curriculum designing, Paper settings and selection committees at the Central, States Universities.

# Contribution to E-PG Pathshala Project and

# Academic Advisory committee of the MHRD

- Contributed as a **Paper Coordinator** (in a Paper entitled **General Forensic Science** for the subject of **Forensic Science**), **Reviewer and Content writer** (28 modules) under the *e-PG Pathshala Project by UGC under the NMEICT mission of MHRD*, *Govt. of India*
- As a Content writer, I have written 28 modules under the e-PG Pathshala Project by UGC under the NMEICT mission of MHRD, Govt. of India
- Member of Academic Advisory committee of the MHRD, Govt. of India as a subject expert in the subject Law and Legal Studies.

# **BOOK REVIEWED (Ministry of Information & Broadcasting, Government of India)**

Reviewed the manuscript entitled **Indian Civilization and the Science of Fingerprinting, Published, which was offered by the** Publication Division, **Ministry of Information & Broadcasting, Government of India,** New Delhi – 110003 (*vide* Letter no. 1/64/2010 –Ed dated 18-07-2011).

#### SESSION CHAIRED/KEYNOTE SPEAKER

 Chaired a session during 2<sup>nd</sup> International Conference on Recent Advances in Forensic Sciences, Forensic Medicine & Toxicology Organized by Indian Association of Medico-Legal Expert (Regd) India from Feb. 20-21, 2011.

- Chaired a session during International Conference on Environment, Genes, Health and Disease -2011 organized by Human Molecular Genetics Laboratory, Department of Zoology, Bharathiar University, Coimbatore, Tamil Nadu, India from Nov. 9-11, 2011.
- Chaired a session on 'Culture Conflict and Victimization of Groups', during Second International Conference of the South Asian Society of Criminology and Victimology to be held at Manonmaniam Sundarnar University, Abhishekapatti Tirunelveli, Kanyakumari, (T.N.) from 11-13 January, 2013.
- Presented a Keynote Address and chaired a technical session at National Workshop on Cyber Forensic & Criminal Investigation organized by Dr. APJ Abdul Kalam Institute of Science & Criminology, Bundhelkhand University, Jhansi, UP, India from 22-24 February 2018.
- Chaired a session during National Seminar of Forensic Science: The Art of Decoding Crime organized by Kerala Law Academy Law College & Centre for Advanced Legal Studies and Research, at Thiruvananthapuram, Kerala, India on 29th July, 2016.
- Chaired a technical session during National Conference on Future Perspectives of
  Forensic Science in India 2017 organized by Dr. Abdul Kalam Institute of Forensic
  Science and Criminology, Bundhelkhand University, Jhansi (U.P.) India from March 910, 2017.
- Chaired a Scientific session on Personal Identification& Emerging Bottlenecks during National Conference on Forensic Science at the Service of Mankind - 2017 organized by Department of Anthropology, Lucknow University, Lucknow (U.P.) India from March 23-24, 2017.
- Chaired a session during 1<sup>st</sup> National Forensic Science Conclave on 'Role of Universities in Nurturing the Discipline' organized by Forensic Science Section, Department of Anthropology, University of Delhi, Delhi on February 10, 2018.
- Presented a Keynote address and chaired a technical session in a seven day National Workshop on "Biometrics and Bone Identification" organized by Department of Anthropology, University of Lucknow, from 27<sup>th</sup> Jan to 2nd Feb 2018.
- Chaired two technical sessions at International Conference in Forensic DNA
   Technology organized by Dr. APJ Abdul Kalam Institute of Science & Criminology,
   Bundhelkhand University, Jhansi, UP, India from 22-24 February 2018.
- Chaired two technical sessions at International Conference in Forensic DNA
   Technology organised by Dr. APJ Abdul Kalam Institute of Science & Criminology,
   Bundhelkhand University, Jhansi, UP, India from 22-24 February, 2019.
- Chaired a Technical session at 2nd International eConference on DNA Forensics, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on February 27-28, 2021.

Chaired a session at 9th International eConference on Forensic Chemistry & Toxicology, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on September 29-30, 2021.

# OTHER ACADEMIC ACHEIVEMENTS

- Member of selection committees (for Junior Scientific officers to Director Level); setting
  of question papers (for national level and other competitive exams); moderator of
  question papers; reviewer and evaluator for States and Central Public Service
  Commissions.
- Member of selection committees as an expert and Vice Chancellor Nominee; Member of P.G. board of studies and Research; examiner and evaluator of Ph.D. thesis; Paper setter and evaluator for many states and central universities.
- Acted as Observer and Center Superintendent at various National and State level tests.
- Member of many organizing committees in different capacities.
- Member of many Seminar/symposium/conference Advisory and organizing committee in different capacities.
- Member of Scientific Committee of 2nd International eConference on DNA Forensics, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on February 27-28, 2021.
- Member of Scientific Committee of 3rd International eConference on Document
   Examination organized by International Association of Scientists & Researchers (IASR) New Delhi, India on March 27-28, 2021.
- Member of Scientific Committee of 4th International eConference on Fingerprint Analysis, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on April 24-25, 2021.
- Member of Scientific Committee of 5th International eConference on Forensic Odontology, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on May 29-30, 2021.
- Member of Scientific Committee of 7th International eConference on Forensic Psychology, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on July 24-25, 2021.
- Member of Scientific Committee of 8th International eConference on Forensic Medicine and Toxicology, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on August 28-29, 2021.
- Member of Scientific Committee of 9th International eConference on Forensic Chemistry & Toxicology, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on September 29-30, 2021.

- Member of Scientific Committee of 10th International eConference on Crime Scene Investigation, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on October 30-31, 2021.
- Member of Scientific Committee of 11th International eConference on Cyber Security, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on November 27-28, 2021.
- Member of Scientific Committee of 12th International eConference on Forensic Physics, organized by International Association of Scientists & Researchers (IASR) New Delhi, India on December 10-11, 2021.

#### RESEARCH EXPERIENCE

❖ Worked as a Junior and Senior Research Fellow in the University Grants Commission, New Delhi sponsored major Research Project entitled "Determination of Sex, Site, Species Origin, ABO Blood Groups and Protein Pattern from hair and elemental Composition" in the Department of the Forensic Science, Punjabi University, Patiala from March 28, 1988 to March 27, 1991.

# Ph.D. Students completed/pursuing Degree under my Guidance (Details):

S. No.	Name of the Student	Title of Thesis	Status
1.	Rajinder Singh	Hair characterization of Schedule-I Felids of Indian Wildlife Protection Act (1972) using morphometric, protein and DNA techniques: Implications in Wildlife Forensics	In active Collaboration with Wildlife Institute of India, Dehradun (U.K.)
2.	Vivek SehajPal	Forensic hair characterization of Artiodactyls under Schedule-I of Indian Wildlife (Protection) Act-1972 using morphometric, protein and DNA techniques	Degree Awarded In active Collaboration with Wildlife Institute of India, Dehradun (U.K.)
3.	Rajwinder Singh UGC-SRF	Forensic Characterization of Diatoms from various water bodies of Punjab	Degree Awarded

4.	Subrat Chaudhary DFSS-SRF	Study of audio and video tape alteration and development of detection technique	Degree Awarded in active Collaboration with Central Forensic Science Laboratory, Chandigarh
5.	Haroon Naem Khan	Identification From Edgeoscopy and Poroscopy in The Examination of Partial Fingerprints And Their Significance in Crime Investigation	Degree Awarded
6.	Aman Deep Kaur	Study on Sound Patterns of Gunshots for Characterization of Small Firearms and Creation of Data Bank for Forensic Interpretations.	Degree Awarded in active Collaboration with Central Forensic Science Laboratory, Chandigarh
7	Renu Devi UGC-SRF	Reconstruction of Bone Length from Bone Fragments	Degree Awarded in active Collaboration with Department of Anthropolgy, Delhi University, Delhi
8	Tina UGC BSR fellowship	Forensic Identification of Medicinal Plants in Trade	Degree Awarded UGC-BSR Fellowship Thesis submitted
9	Deepali Luthra UGC-SRF	Forensic Characterization of Phytoplankton of Selected Water Bodies of Haryana	Degree Awarded (UGC-SRF)
10	Bhawna Joshi UGC-JRF	Forensic DNA analysis of naturally decomposed biological samples using STR and mini-STR markers	Degree Awarded in Collaboration with AIIMS, New Delhi Pre-submission seminar
11	Preeti Guleria	Forensic Characterization of Game	Registered

	UGC-BSR	bird feathers mentioned under	in active
	Fellowship	(Schedule – I) by using Morphometric	Collaboration with
	_	and Protein Techniques: Implications	Wildlife Institute
		in Wildlife Forensics	of India, Dehradun
			(U.K.) India
12	Jagmeet Kaur	Forensic Studies on Lip Prints	Registered
			UGC-NET
			fellowship
13	Lovepreet Kaur	Facial Recognition From CCTV	Registered
	UGC BSR	Footages Under Different Conditions	UGC BSR
	fellowship,		fellowship,
	Completed		Completed Course
	Course work		work
14	Amandeep Kaur	FORENSIC STUDIES FOR DNA	Registered
	Bhambra	PROFILING ON PAPER	Selected for
		SUBSTRATES	fellowship,
			Completed Course
			work
15	Jaswinder Singh	Qualitative and Quantitative Analysis	Registered
		of Fingermarks from Two North	as a
		Indian Population	Teacher Fellow
16	Manisha	Reliability study of Speaker	Registered
		Identification Parameters of Selected	in active
		Clue Words	Collaboration with
			SFSL, Delhi
17	Staffi Singla	In Process	UGC-NET
			Completing Course
			Work

# List of Papers/Courses taught at P.G. Level

S. No.	Paper Taught	Class
1.	General Forensic Science	M.Sc. – I (Semester-I)
2	Theory and Practical based on Finger Print	M.ScI
	Examination	(Semester-I)
3.	Theory and Practical based on Criminalistics	M.Sc. – I
	including Psychological techniques	(Semester-II)
5.	Criminalistics	M.ScI
		(Semester-II)
4.	Theory and Practical based on Forensic	M.Sc II

	Biology and Serology including	(Semester-III)
	Anthropology	
6.	Theory – Advance Forensic Serology	M.Sc. – II
	including DNA Forensics.	(Semester-IV)
	Practical based on Forensic Biology and	
	Serology	
	Practical based on Forensic Anthropology	
6	Practical based on Forensic Biology and	M.Sc. – II (Semester-III)
	Serology	
7.	Special Report	M.Sc. – II
	Related to Various specializations	(Semester-IV)

#### PROFESSIONAL WORKSHOP/TRAINING COURSES ATTENDED

- ◆ Attended workshop on **DNA Finger Printing and its Applications** at Guru Nanak Dev University, Amritsar (Pb.) India from February 04-24, 1998.
- ♦ Attended the University Grants Commission sponsored Refresher Course on Criminology and Forensic Science organized by the Department of Forensic Science, Punjabi University, Patiala from March 1-22, 1999.
- ♦ Attended University Grants Commission, New Delhi, sponsored Refresher Course on Criminology and Forensic Science organized by Academic Staff College, Jamia Millia Islamia, New Delhi from June 10 to July 07, 1999.
- Attended IVth Patnet Awareness Workshop organized by Punjab State Council for Science & Technology, Chandigarh, India on November 9, 1999.
- ♦ Attended workshop on **Control of Illegal Wild Life Trade in India** at Wild Life Institute of Inida, Dehradoon, India from February 23-25, 2000.
- ◆ Attended the University Grants Commission, New Delhi sponsored Refresher Course in Criminology and Forensic Science organized by the Department of Forensic Science, Punjabi University, Patiala from December 11-31, 2001.
- ♦ Attended training course on **Legal Issues in Wildlife Management** at the Wildlife Institute of India, Dehradoon, India from January 21-25, 2002.
- ◆ Attended the University Grants Commission, New Delhi sponsored Refresher Course on Forensic Science organized by the Department of Forensic Science, Punjabi University, Patiala from January 11-31, 2003.

# TRAINING RECEIVED

- Received Training in Physics division of **Indian Statistical Institute**, Calcutta 'To determine elasticity from Hair' for one and half months (Thrice for two weeks each) during the period of 1990-1991 on identification from hair.
- ◆ Received training in "Scientific Investigation of Crime Scene" at **Forensic Science Laboratory**, **U.P.**, Lucknow, India from May 16, 1991 to August 24, 1991.
- ◆ Received training in analysis of Explosive at Forensic Science Laboratory, U.P., Agra, India from October 4, 1993 to October 10, 1993 and from October 15, 1993 to October 19, 1993.

# **Lectures/ Keynote Address/ Invited Lecture Delivered:**

- ➤ I have been invited very frequently to deliver number of lectures on 'Crime Scene Management / Trafficking of women and children/ International Adoption/ Crime Scene Investigation/ Brain Finger Printing /Narco Analysis / Lie Detector/ Chelioscopy/ Technological Advances in Forensic Science to G.O.s; N.G.O.s, of police and Scientific staff at Maharaja Ranjit Singh Punjab Police Academy, Phillaur (2001-2016).
- ➤ I have been invited to deliver lectures on 'Crime Scene Management and Role of DNA in Criminal Investigation' to PCS (Judicial) officers; Session Judges at Maharaja Ranjit Singh Punjab Police Academy, Phillaur on Sept. 26, 2012, Dec. 4, 2012, and 28-06-2016.
- ➤ Delivered a lecture to the Police Investigating officer (I.Os.) on 'Hairs/Fibers/Forensic Photography in relation to crime scene investigation' at Department of Forensic Medicine & Toxicology, Govt. Medical College, Patiala on 8<sup>th</sup> March, 2005.
- ➤ I have been invited to deliver lecture to **Police and Judicial officers** at Training Programme and Workshop for Police and Judicial officers organized by Institute of Forensic Science, Bundhelkhand University, Jhansi from 4-5<sup>th</sup> March, 2006.
- ➤ I have been invited to deliver lectures (including practical demonstrations) on 'Determination of sex, Blood Groups and Enzyme Types from Hairs and stains of Semen and Vaginal Fluid' at 'Workshop on Forensic Investigation of rape cases' organized by Amity Institute of Advanced Forensic science Research and Training' at Noida from October 4-6, 2006.
- ➤ I have been invited to deliver lectures on *Wildlife Forensics* on Forensic Day celebration at **Amity Institute of Forensic Sciences** at Amity University Campus, sector 125, Noida on March 17, 2011.
- ➤ I have been invited to deliver lectures on *Wildlife Forensics* to Pot Graduate students at LNJP National Institute of Criminology and Forensic Sciences, Rohini, Delhi 2014.

- ➤ I have been invited to deliver lectures on *various aspects of Forensics* at Chandigarh University, Gharuan, near Chandigarh, Punjab.
- ➤ I have been invited frequently to deliver lectures to Police (of various states); judicial officers and officers of vigilance Bureau at their Training Programme organized by M.R.S. Punjab Police Academy, Phillaur.
- ➤ Delivered an invited talk at the seminar on **Scientific Investigation in Forensics** organized by the **University Institute of Bio and Pharma Sciences, Chandigarh University, Gharuan, Punjab** on 09-02-2015. I have conducted a counseling session for PG students.
- ➤ Delivered a Keynote Speaker National Workshop on Cyber Forensic & Criminal Investigation organized by Institute of Forensic Science and Criminology, Bundhelkhand University, Jhansi (U.P.) India from March 23, 2015.
- ➤ Delivered a series of lectures on Forensic Science at **Department of Anthropology**, **Panjab University**, **Chandigarh**, **2016**.
- ➤ Delivered two Extension lectures in the **Department of Genetics** (Forensic Science Unit), Maharishi Dayanand University, Rohtak on January 20, 2017.
- ➤ I have been invited to deliver lecture in UGC sponsored National Workshop on Chemistry-Biology Interface: Opportunities and Challenges organized by Department of Chemistry and Life Sciences, S.D, College (Lahore), Ambala Cantt on 12<sup>th</sup> March, 2016.
- ➤ I have been invited to deliver lecture in National Seminar of Forensic Science: The Art of Decoding Crime organized by Kerala Law Academy Law College & Centre for Advanced Legal Studies and Research, at Thiruvananthapuram, Kerala, India on 29th July, 2016.
- ➤ Delivered a Lecture as a Resource Person on the topic "Scientific Aids to Investigation and collection of evidence from scene of crime" at Chandigarh Judicial Academy to Additional District and Sessions Judge under training on 24.10.2016.
- > Delivered a lecture at **Asian Institute**, **Patiala**
- ➤ Delivered a lecture as Key Speaker on Role of Botanical Evidences in the investigation of crime at National Conference on Forensic Science at the Service of Mankind 2017 organized by Department of Anthropology, Lucknow University, Lucknow (U.P.) India from March 23-24, 2017.
- ▶ Presented Invited Talk at International Conference in Forensic DNA Technology organized by Dr. APJ Abdul Kalam Institute of Science & Criminology, Bundhelkhand University, Jhansi, UP, India from 22-24 February, 2018
- Presented 'FORENSICON 2019' A National Conference on "Challenges & Innovations in Criminal Justice System" organized by Dr. Abdul

Kalam Institute of Forensic Science and Criminology, Bundhelkhand University, Jhansi (U.P.) India from February 21-22, 2019.

# PROFESSIONAL ASSOCIATION

- ❖ Life Member of Indian Academy of Forensic Sciences.
- ❖ Life Member of Indian Academy of Forensic Medicines
- ❖ Annual Member of the Indian Society of Toxicology

# **RESEARCH PUBLICATIONS**

- 1. **Mukesh Kumar** and Chattopadhyay P.K. (1987) Determination of Secretor Status from Saliva Stains of Paan Chewing Individuals, Ind. J. Phys. Anthrop. and Hum Genet. 13(3): 233-235.
- 2. **Mukesh Kumar**, Chahal, K. and Chattopadhyay P.K. (1989) Inheritance of Medulla Types, <u>Proc. 3<sup>rd</sup> Indo Pacific Congress on Legal Medicine and Forensic Science</u>, Madras, Sept. 8-12: 168-169.
- 3. **Mukesh Kumar** (1989) Personal Identification from Dermal Patterns, **Proc. National Meeting of Young Scientist and Research Fellow.** Punjabi University, Patiala.
- Mukesh Kumar and Chattopadhyay P.K.(1990) ABO Blood Groups from Hair, <u>Proc. The First International Symposium on Advance in Legal Medicine, KANAZAWA, JAPAN</u>, 411-414.
- 5. **Mukesh Kumar** and Chattopadhyay P.K.(1991)Scale Pattern of Hair A Study from Various Sites of the Human Body, **J. Forensic Medicine**, 13(2): 37-38.
- 6. **Mukesh Kumar** and Chattopadhyay P.K.(1997): Determination of Sex and Enzymes Types from single Hair Root Sheath. **Indian Academy of Forensic Medicine**, 19(1-3): 10-15.
- 7. Gurmeet Kaur and **Mukesh Kumar** (2000) Medulla Types of Hair A Study of Brahmin and Rajputs of the Punjab, **J. Human Ecology, Delhi,** 11(6): 483-486.
- 8. Thakar, M.K. (2001) Forensic Examination of Hair, Biospectrum, 3 (1, 2): 42-43.
- 9. Sharma, R., **Thakar, M.K.** and Jasuja, O.P. **(2002)** Twins Hair A study of some morphological features, **J. Human Ecology, Delhi,** 13 (5): 407-410.
- 10. Singh, R. **Thakar, M.K. and** Kumar, L.A. (2002) Identification of Nitrites in the Gunshot Residue (GSR) Sensitivity of Greiss and Modified Greiss Reagents: A Comparative Study, **The Indian Journal of Criminology & Criminalistics,** XXIII (3): 223-233.

- 11. Singh, R.; Kaur, J. and **Thakar, M.K.** (2003): Detection of argemone oil in the adulterated mustard oil by using colour tests and Thin Layer chromatography, **Anil Aggarwal's Internet Journal of Forensic Medicine and Toxicology**, 5(2).
- 12. Goyal, P.; Sahajpal, V.; Singh, R; Goyal S.P. and **Thakar, M.K.** (2005): Electrophoretic Differentiation of Protected Species based on their Sarcoplasmic Protein Profiles, **Turkish Journal of Forensic Sciences**, 4(3): 23-29.
- 13. Singh, R.; Singh, R. and **Thakar, M.K.** (2005): Drowning Associated Diatoms, **Indian Internet Journal of Forensic Medicine & Toxicology,** 3(3).
- 14. **Singh, R.; Singh, R.;** Kumar, S. and **Thakar, M.K.** (2006) Forensic Analysis of Diatoms- A Review. **Anil Aggrawal's Internet Journal of Forensic Medicine and Toxicology,** 2006; Vol. 7 (2).www.geradts.com/~anil.
- 15. Singh, R., Singh, R. and **Thakar, M.K.** Extraction methods of diatoms-a review, Indian Internet Journal of Forensic Medicine and Toxicology (2006a). 4(2).
- 16. Singh, R., Singh, R., Singh, R. and **Thakar, M.K.**: Diatomological studies from three water bodies of Jaipur, Indian Internet Journal of Forensic Medicine and Toxicology (2006b).4, 3 (Print ISSN: 0973–1970).
- 17. Singh, R.; Singh, R.; Suman, S. and **Thakar, M.K.** (2006) Thin Layer Chromatographic analysis of some commonly used poisonous seeds. **The Journal of the Indian Society of Toxicology**, 2 (2):33-35
- 18. Singla, A.K. and **Thakar, M.K**. (2006): Establishing the Sequence of Intersecting Ballpoint Pen and Felt –Tipped Marker Strokes, **Journal of Forensic Identification**, 56(3): 386.
- 19. Choudhary, S.K., Singh, C.P. and **Thakar, M.K.**, (2007): Extended study of Pitch shifted Speech by preserving Tempo: An External Study has been published in **The Internet Journal of Forensic Science**, 2(1).
- 20. Toofany, M.A., Chandel, R.S. and **Thakar, M.K.**, (2007): A study on the diatom flora of various seas of Mauritius **proceedings of XVIII All India Forensic Science Conference** 2007, Kolkata.
- 21. **Thakar, M.K.**; Singh, R.; Singh, R.; Shelja and Kumar, A., (2007): Forensic Analysis of Some Lip Cosmetics. **Journal of Forensic Identification**, 57(5), 697-703.
- 22. Chandel, R.S.; **Thakar, M.K.**; Goyal, S.P. and Sahajpal, V. (2008) *Forensic Hair Characterization of Six Endangered Felid Species of India*. **Journal of Forensic Identification**, 58(3):317-330.
- 23. Vivek Sahajpal, S.P. Goyal, M.K. Thakar, R. Jayapal and Yoganand, K. (2008): *Hair Characteristics of four Indian bear species* has been published in **Journal of Science & Justice**, 48: 8-15.
- 24. Vivek Sehajpal, Nasreen Jeelani, S.P. Goyal and M.K. Thakar (2008): *Electrophoretic Characterization of some Protected Mammal, Reptile and Avian Species through Sarcoplasmic Protein Profiles*, has been published in Turkish Journal of Forensic Sciences, 7(2): 17-25

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- 57. The following are the links for the DNA sequences of Animals (Species Specific) which have been released by NCBI/ GenBank (America):

#### **During 2007-08 (Animals):**

- \*EU362126 Panthera uncial uncial, Cytochrome b gene, partial sequence, Mitochondria
- \*EU362125 Felis chaus, Cytochrome b gene, partial sequence, Mitochondria
- \*EU362124 Panthera pardus, Cytochrome b gene, partial sequence, Mitochondria
- \*EU362123 Panthera tigris tigris, Cytochrome b gene, partial sequence, Mitochondria.

# **During 2008-09 (Animals):**

http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nuccore&id=185178688 http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nuccore&id=185178687 http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nuccore&id=185178689 http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nuccore&id=185178690 http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nuccore&id=185178691

# **During 2017 (Plant):**

Sharma, T., Sahajpal, V. and Thakar, M.K. (2017): Achyranthes aspera internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence, NCBI GenBank: KY780481.1 by Sharma, T., Sahajpal, V. and Thakar, M.K., TITLE Direct Submission, JOURNAL Submitted (16-MAR-2017) DNA Division, State Forensic Science Laboratory, P.O. Junga, Junga, Himachal Pradesh 171218, India (https://www.ncbi.nlm.nih.gov/nuccore/KY780481.1).

The following GenBank accession numbers have been allotted for plant nucleotide sequences submitted:

- BankIt2139217 FIMPT-AA2-RBCL MH765667
- BankIt2139219 FIMPT-AA3-RBCL MH765668
- BankIt2139226 FIMPT-AZ2-RBCL MH765669
- BankIt2139227 FIMPT-AZ3-RBCL MH765670
- BankIt2139256 FIMPT-BK2-RBCL MH765671
- BankIt2139258 FIMPT-BK3-rbcl MH765672
- BankIt2139267 FIMPT-ER2-RBCL MH765673
- BankIt2139268 FIMPT-ER3-RBCL MH765674
- BankIt2139272 FIMPT-FK2-RBCL MH765675
- BankIt2139274 FIMPT-FK3-RBCL MH765676
- BankIt2139289 FIMPT-MI2-RBCL MH765677
- BankIt2139290 FIMPT-MI3-RBCL MH765678
- BankIt2139294 FIMPT-PR2-RBCL MH765679
- BankIt2139295 FIMPT-PR3-RBCL MH765680
- BankIt2139308 FIMPT-EG2-RBCL MH765681
- BankIt2139314 FIMPT-EG3-RBCL MH765682
- BankIt2139329 FIMPT-AR2-RBCL MH765683
- BankIt2139343 FIMPT-AR3-RBCL MH765684
- BankIt2139360 FIMPT-CT2-RBCL MH765685
- BankIt2139364 FIMPT-CT3-RBCL MH765686
- BankIt2139386 FIMPT-TC2-RBCL MH765687
- BankIt2139389 FIMPT-TC3-RBCL MH765688
- BankIt2139397 FIMPT-SA2-RBCL MH765689
- BankIt2139399 FIMPT-SA3-RBCL MH765690
- BankIt2139400 FIMPT-SA2-ITS MH765691

## **Communicated Research Papers:**

- 1. Thakar M.K., Sharma T., Sahajpal V. "Assessment of Possibilities and challenges to generate STR profile from Questioned Documents." Communicated to Forensic Science international genetics.
- 2. Thakar M.K., Sharma T. "Does DNA barcoding pertinent to investigate illegal trade of medicinal plants? Forensic Science international genetics, Communicated.
- 3. Thakar M.K., Sharma T. Threatened fauna of Punjab forest area: A legal aspect has been communicated to Indian police journal.
- 4. Thakral R., Sahajpal V., Thakar M.K., Sharma T "STR profiling from one month old samples of Touch DNA." Communicated to Egyption Journal of Forensic Science.

# **CONFERENCES AND SYMPOSIA ATTENDED**

## **International**

- 1) Third Indo-Pacific Congress on legal Medicine and Forensic Sciences held at Madras, India from September 8-12, 1989.
- 2) International Symposium on Forensic Science held at Punjabi University, Patiala, India from March 5-7, 1990.
- 3) The Ist National Congress on Forensic Medicine and Sciences organized by Department of Forensic Medicine, Dhaka Medical College, Dhaka, Bangladesh from November, 4-6, 1993.
- 4) SAARC Workshop on Forensic Science organized by Department of Forensic Science, Punjabi University, Patiala, India from October, 4-7, 1995.
- 5) Attended International Symposium on Forensic Science at Punjabi University, Patiala, India, February 13-14, 2002.
- 6) International Symposium on Forensic Science organized by *Amity Institute of Advanced Forensic science Research and Training* at Amity University campus, Noida, Uttar Pradesh from February 22-24, 2006.
- 7) Organized and participated in an **International Symposium on Advances in Fingerprint Identification,** Department of Forensic science, Punjabi University, Patiala from February 8-10, 2008.
- 8) Organized and participated in an International Symposium on Emerging Trends in Forensic Science at Department of Forensic science, Punjabi University, Patiala from February 22-24, 2010.
- 9) 2<sup>nd</sup>International Conference on Recent Advances in Forensic Sciences, Forensic Medicine & Toxicology organized by Indian Association of Medico-Legal Expert (Regd) India from Feb. 20-21, 2011.

- 10) International Conference on Environment, Genes, Health and Disease -2011 organized by Human Molecular Genetics Laboratory, Department of Zoology, Bharathiar University, Coimbatore, Tamil Nadu, India from Nov. 9-11, 2011.
- 11) 64th Annual Scientific Meeting of American Academy of Forensic Science at Atlanta, Georgia, USA from February 20-25, 2012
- 12) Second International Conference of the South Asian Society of Criminology and Victimologyto be held at Manonmaniam Sundarnar University, Abhishekapatti Tirunelveli, Kanyakumari, (T.N.) from 11-13 January, 2013.
- 13) Attended International Symposium on Emerging Paradigms in Forensic Science at Department of Forensic Science, Punjabi University, Patiala from March 7-9, 2013.
- 14) Attended **4**<sup>th</sup> **International Science Congress (ISC-2014**) at Udaipur, Rajasthan, India, organized by the International Science Congress Association in collaboration with Pacific University, Udaipur, Rajasthan, India from 8-9<sup>th</sup> December, 2014.
- 15) Attended an **International Conference on Questioned Document Examination** at Department of Forensic Science, Punjabi University, Patiala from **Jan 10-12, 2015.**
- 16) Attended National Workshop on Cyber Forensic & Criminal Investigation organized by Institute of Forensic Science and Criminology, Bundhelkhand University, Jhansi (U.P.) India from March 23, 2015.
- 17) Attended **International Finger Print Research Group** at Department of Forensic Science, Punjabi University, Patiala from **Oct 7-9, 2015.**
- 18) Attended 21st Triennial Meeting of International Association of Forensic Sciences (IAFS) at Toronto Canada from August 21-25, 2017.
- 19) Attended International Conference in Forensic DNA Technology organized by Dr. APJ Abdul Kalam Institute of Science & Criminology, Bundhelkhand University, Jhansi, UP, India from 22-24 February, 2018.
- 20) Attended **2nd International eConference on DNA Forensics**, organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on February 27-28, 2021.
- 21) Attended **3rd International eConference** on **Document Examination**, organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on March 27-28, 2021.
- 22) Attended **4th International eConference** on **Fingerprint Analysis**, organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on April 24-25, 2021.
- 23) Attended **5th International eConference on Forensic Odontology**, organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on May 29-30, 2021.

- 24) Attended **7th International eConference on Forensic Psychology,** organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on July 24-25, 2021.
- 25) Attended **8th International eConference on Forensic Medicine and Toxicology,** organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on August 28-29, 2021.
- 26) Attended **9th International eConference on Forensic Chemistry & Toxicology,** organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on September 29-30, 2021.
- 27) Attended **10th International eConference on Crime Scene Investigation,** organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on October 30-31, 2021.
- 28) Attended **11th International eConference on Cyber Security,** organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on November 27-28, 2021.
- 29) Attended **12th International eConference on Forensic Physics,** organized by **International Association of Scientists & Researchers** (IASR) New Delhi, India on December 10-11, 2021.

## **National conferences/workshops:**

- 1) Silver Jubilee celebrations of the **Indian Academy of Forensic Science** at Patiala, India from October, 3-6, 1986.
- 2) 10<sup>th</sup> Annual conference of **Indian Academy of Forensic Medicine** at S.N. Medical College, Agra, India February 4-6, 1988.
- 3) Symposium of **Questioned Documents and Handwriting Examination** at Punjabi University, Patiala, India from April 8-9, 1988.
- 4) XI<sup>th</sup> Annual conference of the **Indian Academy of Forensic Medicine** at M.K.C.G. Medical College, Berhampur, (Orissa) India from February 2-4, 1989.
- 5) National Meeting of Young Scientists and Research fellow on Impact of Science on Human Welfare at Punjabi University, Patiala, India from January 17-19, 1989.
- 6) XII<sup>th</sup> Annual Conference of Indian Academy of Forensic Medicine at Maulana Azad Medical College, Delhi, India from January 19-21<sup>st</sup>, 1990.
- 7) Conference of Indian Academy of Forensic Sciences at Forensic Science Laboratory, U.P. Lucknow, India from July 6-8, 1991.
- 8) 79<sup>th</sup> Session of Indian Science Congress, at S.J.S. University, Baroda, India during January 3-8, 1992.

- 9) XIV<sup>th</sup> Annual conference of Indian Academy of Forensic Medicine, at Medical College, Calcutta, India from January 10-12, 1992.
- 10) 81<sup>st</sup> Session of Indian Science Congress in Rajasthan University, Jaipur, India from January 3-8, 1994.
- 11) XV<sup>th</sup> Annual Conference of Indian Academy of Forensic Medicine, Amritsar, India from February 11-13, 1994.
- 12) XVIth Annual Conference of Indian Academy of Forensic Medicine at Salem (Tamil Nadu) India in January 27-29, 1995.
- 13) 83<sup>rd</sup> Session of Indian Science Congress at Punjabi University, Patiala, India from January 3-8, 1996.
- 14) National Symposium on Eco-degradation & Populations Health; "THE CHALLENGES & MANAGEMENT IN NEW MILLENIUM" at Purnia College, Purnia (Bihar) India from April 14-15, 2000.
- 15) XIV All India Forensic Science Conference organized by Bureau of Police Research and Development at Forensic Science Laboratory, Maharashtra, Mumbai from January 6-8, 2003.
- 16) National symposium on Cyber Forensic and Computer crimes organized by Department of Forensic Science, Punjabi University, Patiala from August 11-13, 2006.
- 17) XVIII All India Forensic Science Conference organized by Directorate of Forensic Science, Ministry of Home Affairs, at Kolkata from November 16-18, 2007.
- 18) National Seminar on Emerging Scenario in Forensic Science organized by Institute of Forensic Science and Criminology, Bundhelkhand University, Jhansi from October 23-24, 2009.
- 19) XX All India Forensic Science Conference organized by Directorate of Forensic Science, Ministry of Home Affairs, Govt. of India, New Delhi, Rajasthan Police and State Forensic Science Laboratory, Rajasthan, Jaipur from November15-17, 2009.
- 20) National Symposium on Challenging Areas in Forensic Science organized by Sri Guru Teg Bahadur Khalsa College, University of Delhi on Feb.5, 2010.
- 21) National Seminar on Ecological Crises organized by Department of Distance Education, Punjabi University, Patiala from September 8-9, 2011.
- 22) Attended **National Conference on Biodiversity: Challenges & Issues** to be organized by Albert Einstein science Institute in collaboration with North Eastern Hill University, at Women's College, Shillong from 5-6June, 2014.
- 23) Attended as expert at one day seminar on 'Scientific Investigation in Forensics' to deliver invited talk and conduct field training session, organized by the University institute of Bio and Pharma Sciences, Chandigarh University, Gharuan, Mohali, Punjab, India on 09-02-2015.

- 24) Attended UGC-SAP Seminar on Forensic Toxicology, which was organized by Department Forensic Science, Punjabi University, Patiala on 5<sup>th</sup> Sept., 2015.
- 25) Attended One day **National Seminar of Forensic Science: the Art of Decoding Crime** organized by Kerala Law Academy Law College & Centre for Advanced Legal Studies and Research, at Thiruvananthapuram, Kerala, India on 29th July, 2016.
- 26) Attended three day Regional Workshop on the topic Research as Pedagogy a Science Teacher Education programme (RAP a STEP) for teachers of undergraduate science courses. Which was sponsored by MHRD supported Center of Excellence for science and Math (COESME) of IISER (Indian Institute of Science and Research), Pune and Department of Biotechnology (DBT), Govt. of India at Punjabi University, Patiala from September 29 to October 1, 2016.
- 27) Attended one-day workshop 'Role of Forensic Science in Administration of Justice' as a resource person organized by the department of Law, Punjabi University, Patiala on 02-03-2017.
- 28) Attended National Conference on Future Perspectives of Forensic Science in India 2017 organized by Dr. Abdul Kalam Institute of Forensic Science and Criminology, Bundhelkhand University, Jhansi (U.P.) India from March 9-10, 2017.
- 29) Attended National Conference on Forensic Science at the Service of Mankind 2017 organized by Department of Anthropology, Lucknow University, Lucknow (U.P.) India from March 23-24, 2017.
- 30) Attended and Delivered a Keynote address during 1<sup>st</sup> National Forensic Science Conclave on 'Role of Universities in Nurturing the Discipline' organized by Forensic Science Section, Department of Anthropology, University of Delhi, Delhi on February 10, 2018.
- 31) Attended 'FORENSICON 2019' A National Conference on "Challenges & Innovations in Criminal Justice System" organized by Dr. Abdul Kalam Institute of Forensic Science and Criminology, Bundhelkhand University, Jhansi (U.P.) India from February 21-22, 2019.

#### REFERENCES

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