

RFSL, NR, DHARAMSHALA

INTRODUCTION:

Dharamshala became headquarters of District Kangra in 1855 and is located in the shadow of Dhauladar mountains. The area known as Dharamshala was annexed by the British in the year 1848 and was also notified as the second capital of the state in 2017. The area was ruled by the Katoch dynasty of Kangra said to be the oldest serving royal family in the world. Kangra is famous for the Kangra tea. There are many temples in Kangra including Masroor Rock Cut temple dating back to 8th century and have carvings similar to Kailash temple at Ellora.

In the first meeting of the Himachal Pradesh Forensic Science Development Board, the Government approved setting up of Regional Forensic Science Laboratory, Northern Range to cover the farthest ends and to expedite delivery of forensic reports from the lab. In the beginning (2008), the RFSL, NR Dharamshala was temporarily housed in a rented accommodation, then the RFSL moved to its own new complex in 2012 and has covered floor area of about 10,000 square feet. The RFSL Dharamshala is catering to the needs of three districts viz. Kangra, Chamba and Una. The forensic experts are rendering services in the field of scene of crime examination and providing regular faculty to the Police Training College, Daroh. The RFSL is on the mailing list of RCMP journal (Canada) and FBI bulletin (USA).

The institution has been in forefront in introducing novelty and has taken lead on many fronts. On 3.3.13, a Pilot Project "One District one Police Station" (OPDS), first of its kind in the country, has been launched by the Hon'ble Chief Minister, Himachal Pradesh during Silver Jubilee Year of the State FSL. Then the pilot project was expanded to include PS Sadar Chamba on 31.7.2016 during International Minjar Fair. Sometimes, the available techniques are not delivering good results that necessitate the use of new technology. Forensic XP-4010 D, second in the country, was acquired under Modernization of Police Forces Scheme, GOI. Further, Forensic experts of document specialty had successfully participated in Proficiency Testing Programme (PT) with Asia's best Govt. Forensic Lab in Hong-Kong in 2016-17 and 2017-18.

On 16.4.15, Hon'ble Chief Minister Himachal Pradesh has laid foundation stone of residential complex for the staff of Regional Forensic Science Laboratory, NR, Dharamshala. On completion, the complex was inaugurated by the Hon'ble Chief Minister on 21.2.2019 and RFSL, NR became first RFSL in the country to have its own residential complex for the officers and officials. A traction elevator facility for hassle free entry to the specially abled persons was inaugurated on 17.11.16 by the Hon'ble Chief Minister HP.

The Cell phone analysis facility with Universal Forensic Extraction Device (UFED) and Forensic Auditing facility, the latter being first of its kind in the country, to detect frauds through digital evidences was created at RFSL, NR, Dharamshala by acquiring equipments and infrastructure in 2017. CCTV cameras for e-surveillance were installed in the year 2018.

The RFSL, Dharamshala appeared on the global map and became 1st RFSL in the country to get ISO/IEC 17025:2005 accreditation by NABL in 2018 in a record time of 4 months after filing the application for NABL accreditation. Also, state-of-the-art infrastructure for expert testimony through Video Conferencing was inaugurated by the Hon'ble Chief Minister in 2018. The snake bite case analysis facility was introduced in the Chemistry & Toxicology Division in this year. In order to cater the needs of investigation agencies, the foundation stone of building to house DNA facility was laid by Hon'ble Chief Minister on 13.11.2018. The satellite Cyber Forensic Lab-cum-Training center was created under CCPWC Scheme of MHA/GoI. Knowledge dissemination to benefit the public/masses was done through electronic and print media. The Document Division successfully participated in the Proficiency Testing Program with the Asia's Best Forensic Lab at Hong Kong for the second consecutive year. Public awareness about forensics through exhibition in the International Minjar fair and Red Cross Fair was organized. The cyber lab has been notified as Electronic Examiner of Digital evidence under section 79 of IT Act, 2000 from MEITY GOI.

WORKING:

There are three divisions:

Biological Sciences (Biology & Serology Division) and (DNA Division)

Chemical Sciences (Chemistry & Toxicology Division)

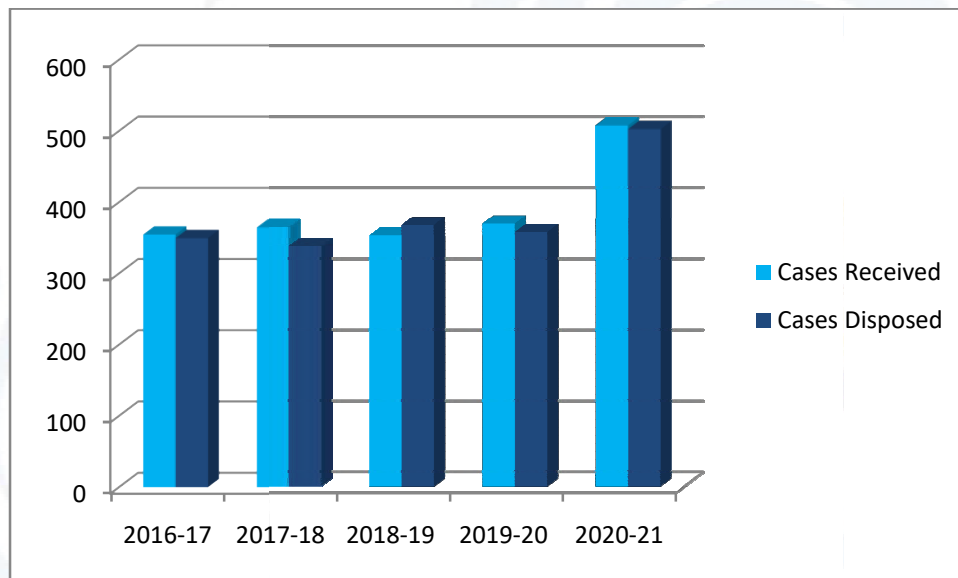
Physical Sciences (Document & Photography Division)

BIOLOGY & SEROLOGY DIVISION

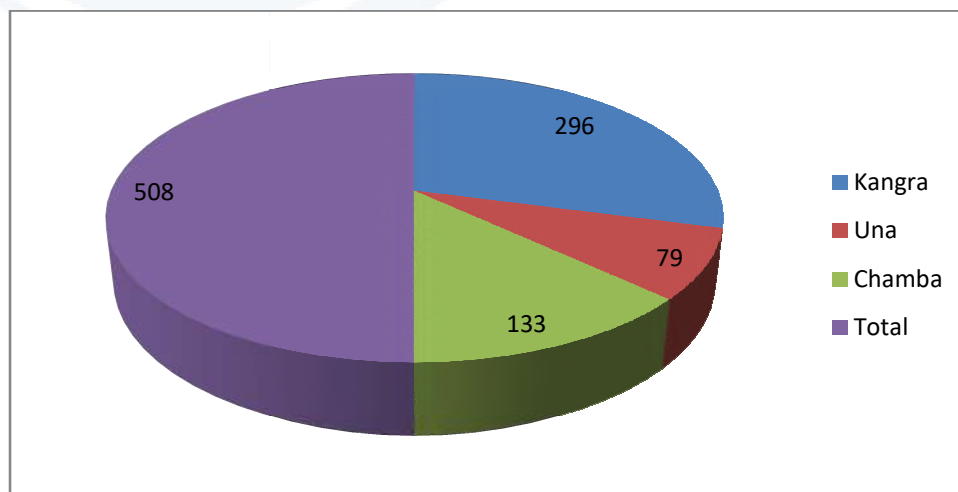
This division is functioning since 2008. The scientific posts were filled up in 2010. The division plays a vital role in cases of homicide, suicide or accidental death, sexual assault and drowning etc. The types of evidentiary clues examined in different crime cases for identification and comparison are as under:

- Blood, semen and saliva
- Diatom from bone sample
- Vomit and fecal matter
- Charred bones, tissues and skin
- Bone (animal and human)
- Hair (animal & human), fibre, feather
- Wildlife cases (flora and fauna)
- Wood and plant products
- Maggots

CASE STATISTICS



DISTRICT WISE CASE RECEIPT 2020-21

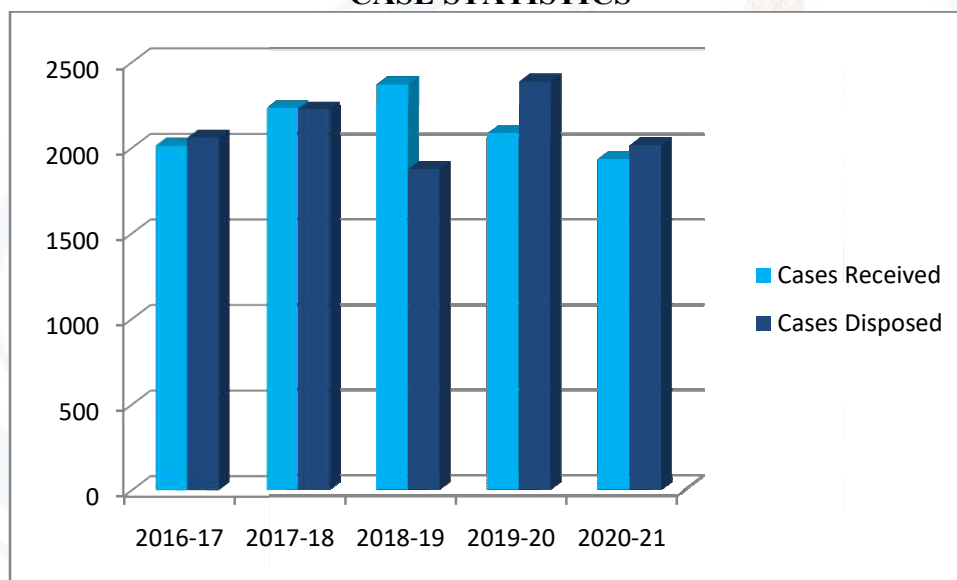


CHEMISTRY & TOXICOLOGY DIVISION

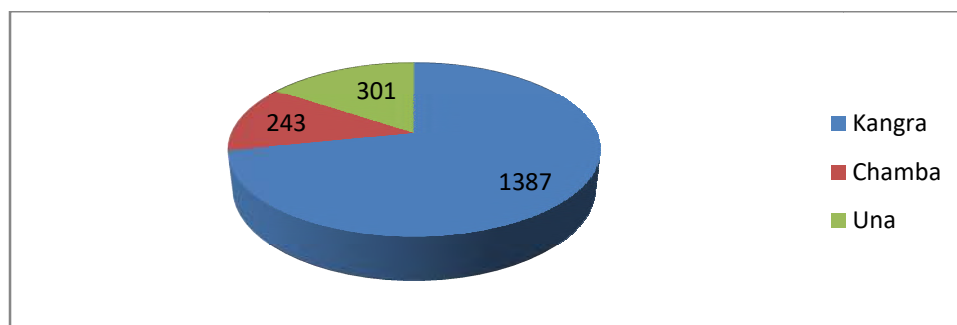
The division started examination of cases in the year, 2008. The examination of excise cases (liquor cases) has also been started in 2011. There has been regular updation of technology in the division. Now, Gas Chromatograph-Head Space (GCHS) and Gas Chromatograph Mass Spectrograph (GCMS) has been added in the division and more instruments are in pipeline. Presently, the division undertakes examination of clue materials such as:

- Petroleum products residues in arson, dowry deaths and in adulteration cases
- Poisons from viscera samples
- Alcohol from blood and urine for drunkenness
- Trap cases
- Liquor cases
- Hooch tragedy cases
- Acid attacks
- Grease, wax, oils and resins
- Cosmetics and organic dyes
- Chemical identification of unknown substances

CASE STATISTICS



DISTRICT WISE CASE RECEIPT 2020-21



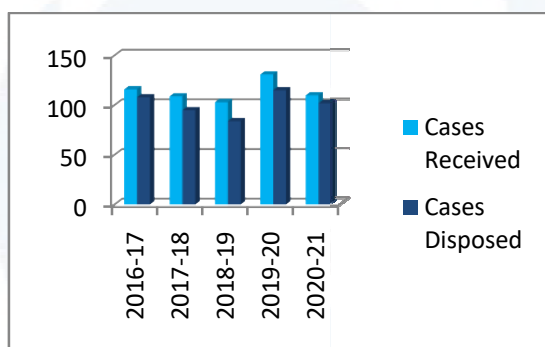
DOCUMENT & PHOTOGRAPHY DIVISION

Forensic Document is the systematic and scientific study of holomastic and onomastic documents. The Document and photography Division was established in July, 2008. The crime cases pertaining to Forensic Documents from Districts Kangra, Chamba, Una, Hamirpur, Kullu, Lahaul Spiti, SV&ACB of Northern Range, CID Unit of Northern Range besides cases from Judiciary are examined. With new initiatives, examination of cases pertaining to Cyber Forensics commenced in 2013 to cater the needs of investigation agencies. This division provides solutions in:

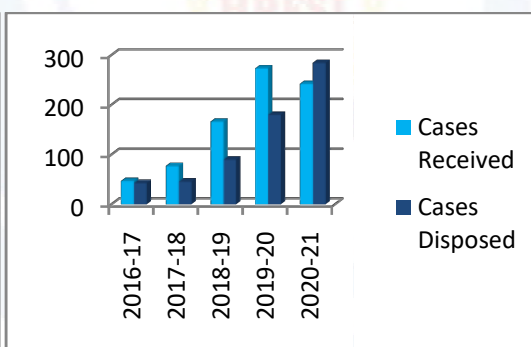
- Fraud and forgery
- Handwriting, signatures, type writings, computer printouts
- Stamps/seals, Counterfeit currency,
- Burnt/ soiled documents, Paper and ink analysis
- Genuineness of security documents viz. Passport, stamp paper, credit card, debit card and other financial documents
- Evaluation of erasures, obliterations, alterations, indentations etc.
- Preservation of hard disks, memory cards, pen drives, compact discs, digital video recorder and analysis of mobile phones.
- Scene of crime photography and lab exhibit photography
- Facial comparison

CASE STATISTICS

Document Cases

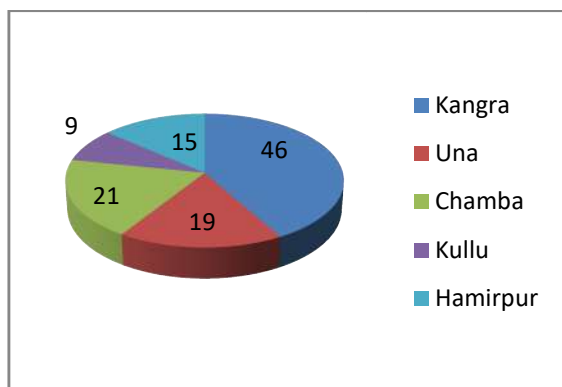


Cyber Cases

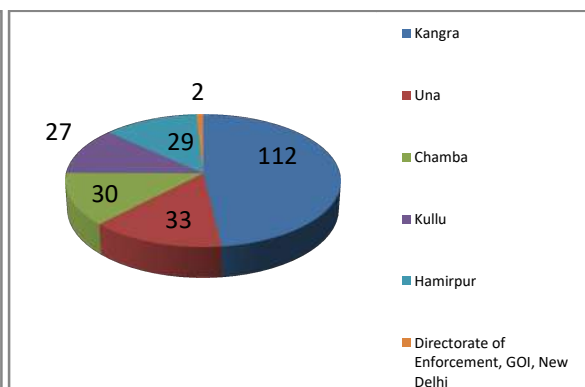


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Document Cases



Cyber Cases



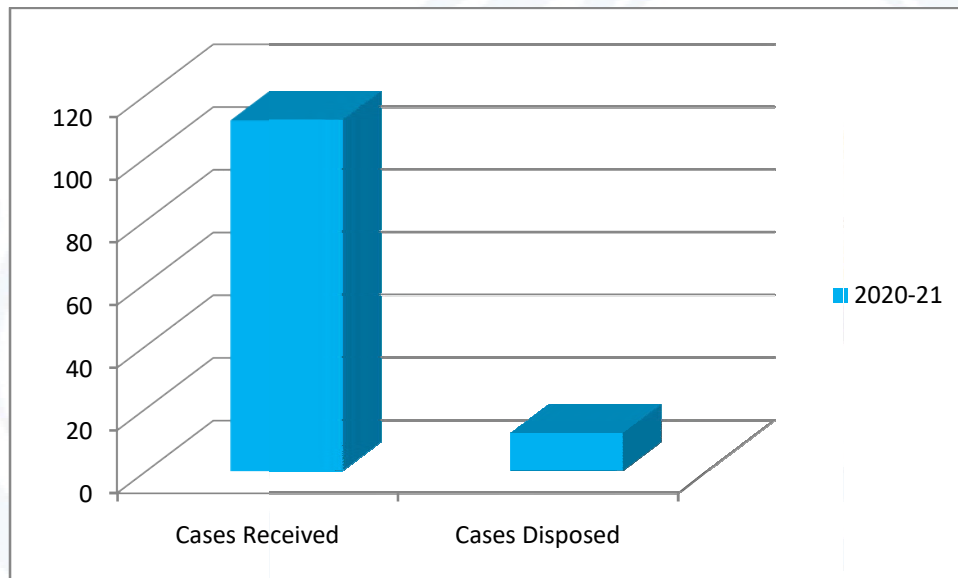
DNA UNIT

DNA is a gold standard in forensic science. In view of its reliance by the Justice Delivery System in dispensation of justice. The Govt. of Himachal Pradesh extended DNA technology at Range Levels in the Regional Forensic Science Laboratories at Mandi & Dharamshala, after creating the necessary infrastructure and imparting extensive training to the experts. The DNA analysis facility commenced in the Northern Range in February 2021.

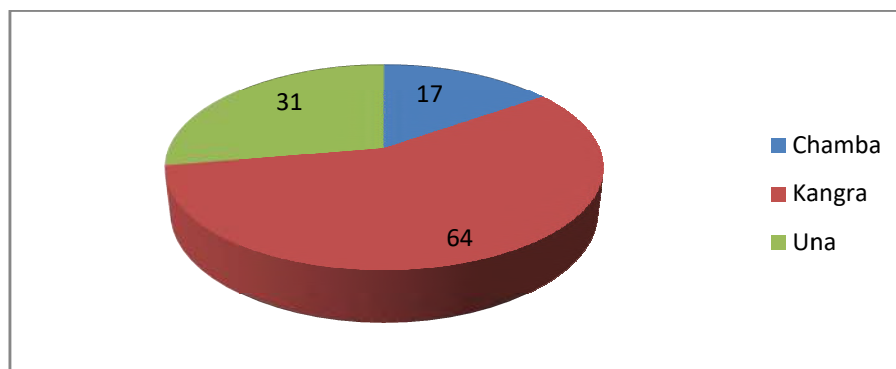
The application of DNA test in the laboratory is extended to:

1. Human body fluids (blood, semen, saliva, urine).
2. Human body tissues (hair, skin, flesh & bones).
3. Nail bed material
4. Teeth
5. Vomit
6. Fetal remains and retained product of conception.
7. Cigarette butts
8. Condoms

CASE STATISTICS



DISTRICT WISE CASE RECEIPT 2020-21



TEACHING & TRAINING

NAME & DESIGNATION	No. of lectures/demonstrations
Dr. Meenakshi Mahajan, Deputy Director	35
Dr. Surender Kumar Pal, Assistant Director	02
Dr. Rakesh Soni, Assistant Director	01
Sh. Ajay Kumar Sehgal, Assistant Director	17
Sh. Mam Raj Shrama, Scientific Officer	01
Dr. Ashwani Bhardwaj, Scientific Officer	07
Dr. Naresh Sharma, Scientific Officer	04
Sh. Upender, Laboratory Assistant	08

TRAININGS ATTENDED

Name	Course
Dr. Meenakshi Mahajan, Deputy Director	<ul style="list-style-type: none"> • Online workshop on Use Case Clearing house (UCCH) Forensics organized by DSCI, India and NASSCOM on 12.11.2020. • Online webinar on the Questioned Documents work group of AFSN on 09.11.2020. • Attended the 6th International CSI Conference organized by CSI Korea w.e.f. 22-24.10.2020. • Attended webinar on 'Prevention of Women and Children from Online Crime during Pandemic and disasters' organized by National Institute of Disaster Management (NIDM), Ministry of Home affairs, GOI in collaboration with International Justice Mission on 09.09. 2020. • Attended online training on Digital Forensics & Information Gathering by Knowledge Recourse Centre organized by C-DAC Thiruvendrum 17-21.8.2020. • Virtual Training on Laboratory System & Internal Audit as per ISO/IEC 17025:2017 by Training and capacity building Cell (TCB), Quality Council of India on 04-05.07.2020. • Attended online meeting on Malware Forensics on 02.07.2020. • Online webinar on XRY Introduction & XRY Reader to XAMN Viewer on 29.06.2020. • Attended online webinar on Malware Analysis and reverse Engineering organized by Raksha University in collaboration with Cyint Technology on 20.06.2020.
Dr. Rakesh Soni, Assistant Director	<ul style="list-style-type: none"> • Webinar on Analysis of Amines in GC on dated 23.03.2021 (RESTEK corporation) • Webinar on Choosing a different carrier Gas in GC on dated 09.03.2021 (RESTEK corporation) • Three days online course on Forensic report Writing Statistics and Standards on dated 02.12.2020 to 04.12.2020 (LNJN National Institute of Criminology and Forensic Science) • One day training on Scene of Crime photography (In House Training) on dated 05.09.2020 (RFSL, NR, Dharamshala) • Training on ISO/IEC 17025:2017 Lab Management System (In House Training) on dated 6.07.2020 (RFSL, NR, Dharamshala)

	<ul style="list-style-type: none"> • Training on ISO/IEC 17025:2017 Lab Management System (In House Training) on dated 22.6.2020 (RFSL, NR, Dharamshala)
Sh. Rajesh Kumar, Scientific Officer	<ul style="list-style-type: none"> • One day training on Scene of Crime photography (In House Training) on dated 05.09.2020 (RFSL, NR, Dharamshala) • Training on ISO/IEC 17025:2017 Lab Management System (In House Training) on dated 6.07.2020 (RFSL, NR, Dharamshala). • Training on ISO/IEC 17025:2017 Lab Management System (In House Training) on dated 22.6.2020 (RFSL, NR, Dharamshala)
Dr. Ashwani Bhardwaj, Scientific Officer	<ul style="list-style-type: none"> • Online course on ISO/IEC 17025:2017-General requirement for the competence of Testing and Calibration Laboratories through NABL. • Online course on Impact of Forensic Reports on Judicial Decisions in a criminal Trial from 9th to 11th November 2020 through LNJN NICFS, New Delhi. • Online course on Impact of Forensic Report writing Statistics and standards from 2th to 4th December 2020 through LNJN NICFS, New Delhi. • One day webinar on ‘Victims of Crime against Women & Children’ organized by BPR&D, New Delhi on 26.02.2021 at RFSL, NR Dharamshala. • Webinar on implementation of Rapid DNA in law enforcement on 28.04.2021.
Dr. Naresh Sharma, Scientific Officer	<ul style="list-style-type: none"> • Attended online training on “Forensic Report Writing, Statistics and Standard” w.e.f. 02.12.2020 to 04.12.2020 & “Wildlife Crime and Forensic Science” w.e.f. 14.12.2020 to 17.12.2020 organized by NICFS, New Delhi.
Sh. Rajat Chaudhary, Scientific Assistant	<ul style="list-style-type: none"> • Participated in three hours online course on ‘XRY Introduction and XRY Reader to XAMN Viewer’ on 29-06-2020.

CONFERENCE/SEMINAR/WORKSHOP/SYMPOSIUM ATTENDED

Name	Remarks
Sh. Ajay Sehgal, Assistant Director Dr. Naresh Sharma, Scientific Officer Sh. Mam Raj Sharma, Scientific Officer Sh. Ajay Singh Rana, Scientific Assistant Sh. Ram Singh, Laboratory Assistant	<ul style="list-style-type: none"> • Attended Webinar on DNA Sampling at RFSL, NR, Dharamshala on 26.10.2020.

SEMINAR /WORKSHOP/ COURSES ORGANIZED

- One week training programme on the request of Principal DR RGPMC Tanda on Forensic Science w.e.f. 8-15.3.2021 was organized for Medical Officer pursuing their PG degree in Forensic Science in accordance with the National Medical commission guidelines.
- Webinar on sampling for DNA profiling in crime against women and children under Nirbhya Scheme govt. of India for police officers and MOs of Northern Range on 28.11.2020.
- Course on Scene of Crime Photography and Videography on 05.09.2020 for staff at RFSL, NR.



One Week Training Programme of Medical Officers pursuing PG in Forensic Medicine
w.e.f. 8-15.3.2021

SESSION CHAIRED/RADIO TALK/TV TALK

Name & Designation	Activity
Dr. Meenakshi Mahajan, Deputy Director	<ul style="list-style-type: none">• Delivered valedictory address in the online training on 'Sexual Assault Evidence Collection Kit' organized by DIG, NR on 27.10.2020.• Delivered invited talk on Role of Social Media on International Women Day organized by Amity Institute of Forensic Science on 08.03.2021.• Delivered invited talk on investigation and establishing cyber crime in the webinar sponsored by national commission for women.• Attended online Assessor Training programme w.e.f. 20-22.01.2021 of NABL.

REGIONAL FORENSIC SCIENCE LABORATORY, MANDI

INTRODUCTION

The RFSL Mandi is catering to the needs of five districts viz. Mandi, Kullu, Lahaul-Spiti, Bilaspur, and Hamirpur, and covers the largest geographical area of all forensic laboratories of Himachal Pradesh. There are three specialties viz. Biological Sciences, Physical Sciences and Chemical Sciences. A New specialty of DNA has also been introduced in the laboratory with the recruitment of a Scientific Officer and procurement of the equipment for DNA examination. The facility has been inaugurated by the Hon'ble Chief Minister Shri. Jai Ram Thakur in March 2021.

A proposal for the extension of the existing building of RFSL Mandi has been granted Rs 1.3 Crores by the state Govt. and additional space would be created to house the DNA facility, digital forensic facilities and an instrumentation center for Chemistry and Toxicology division that can also later accommodate NDPS examination facilities, if required. A conference hall is also proposed in the laboratory to be equipped with state-of-the-art audio-visual facilities.

RFSL Mandi is also working for NABL accreditation based on International Organization of Standardization (ISO/IEC 17025: 2017).

Organization Structure

The Deputy Director is the administrative head of the RFSL Mandi and since he had been an expert in Physics and Ballistics previously, he also takes up case work and research and development work in the field. The later activity is more predominant as the case work is the responsibility of the Assistant Director. The laboratory has three divisions each headed by an Assistant Director. Assistant Directors manage the scientific and technical issues of their respective division, supported by one scientific officer and other scientific support staff, under overall administrative control of the Deputy Director.

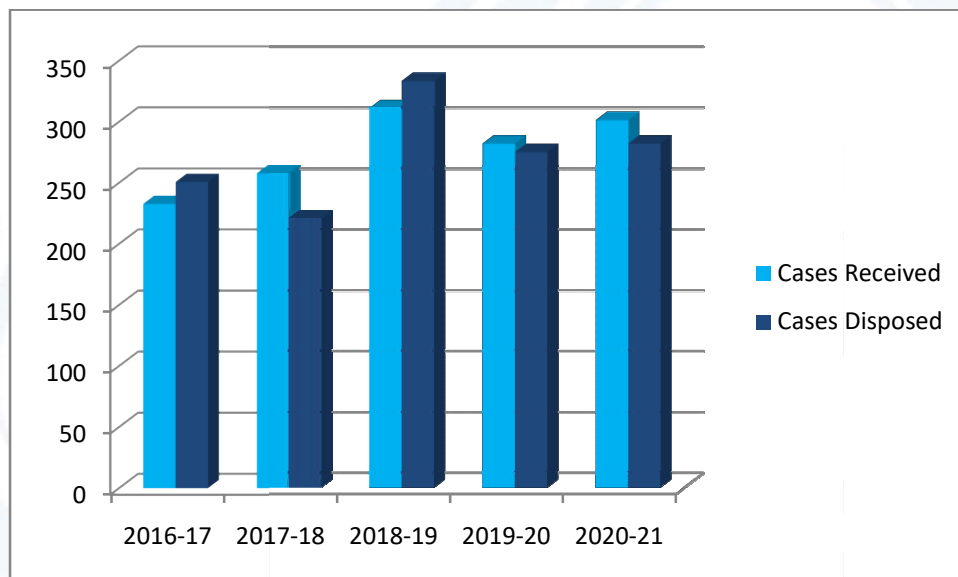


BIOLOGY & SEROLOGY DIVISION

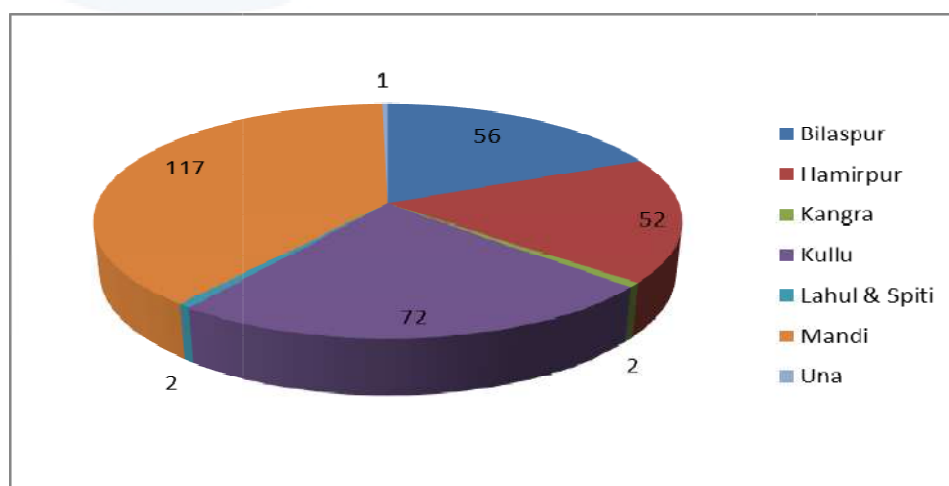
Evidences of biological origin play a vital role in cases of homicide, suicide or accidental death, sexual assaults and in cases of wildlife (flora and fauna) besides ante-mortem or postmortem drowning. The clues are examined for the purpose of identification and comparison with control samples. Types of evidences examined are given as under:

- ◆ Blood, semen and saliva
- ◆ Vomit, fecal matter
- ◆ Tissues and skin in partially burnt bodies/dowry deaths/hanging cases
- ◆ Bone (animal and human) age, sex in respect of human bones
- ◆ Hair (animal & human), fiber, feather
- ◆ Maggots (Forensic Indicators)
- ◆ Wood and plant identification
- ◆ Wildlife Cases (examination of animal skin, blood, flesh)
- ◆ Diatom from bones

CASE STATISTICS



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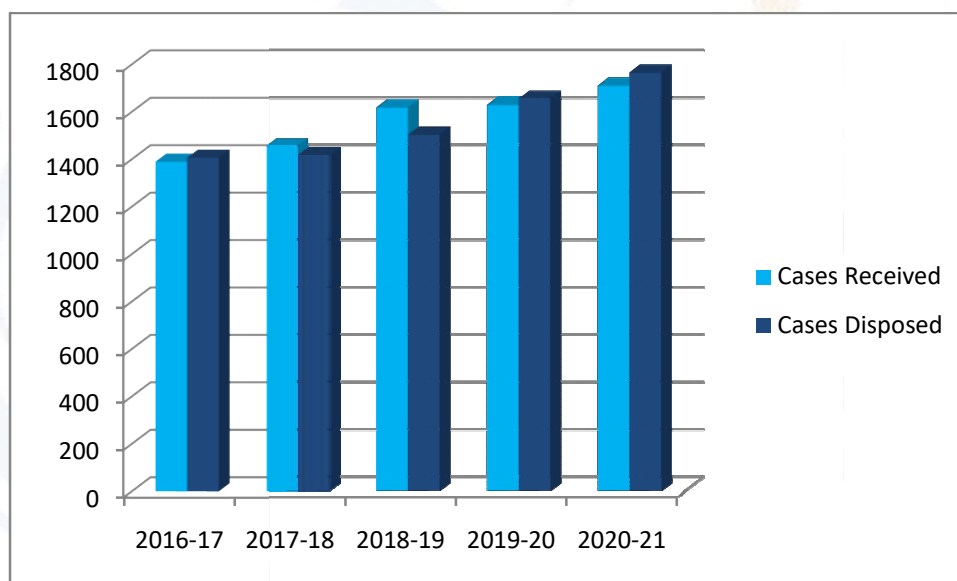


CHEMISTRY & TOXICOLOGY DIVISION

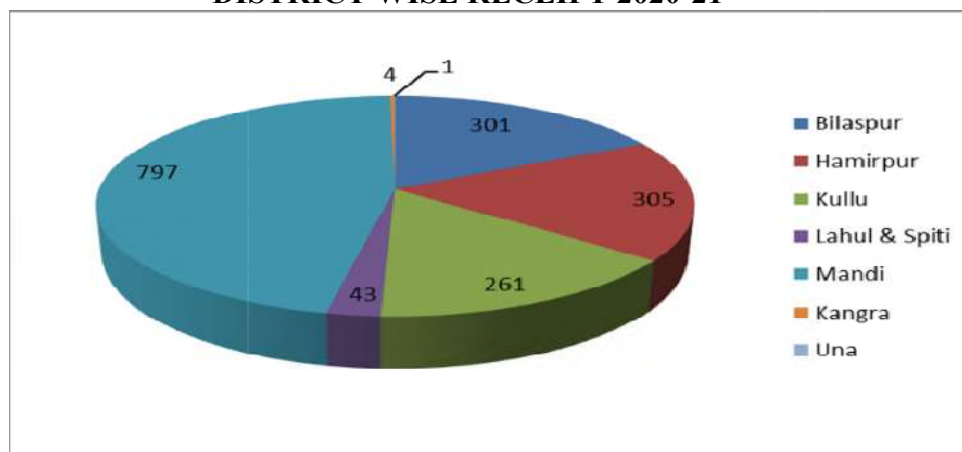
The division started examination of cases in the year, 2009. The examination of excise cases (liquor cases) has also been started in 2011. There has been regular updation of technology in the division. Now, Gas Chromatograph (GC), GC-MS and GC-MS have been added in the division and more instruments are in pipeline. Presently, the division undertakes examination of clue materials such as:

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- Poisons from viscera samples
- Alcohol from blood and urine for drunkenness
- Trap cases
- Liquor cases
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- Grease, wax, oils and resins
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CASE STATISTICS



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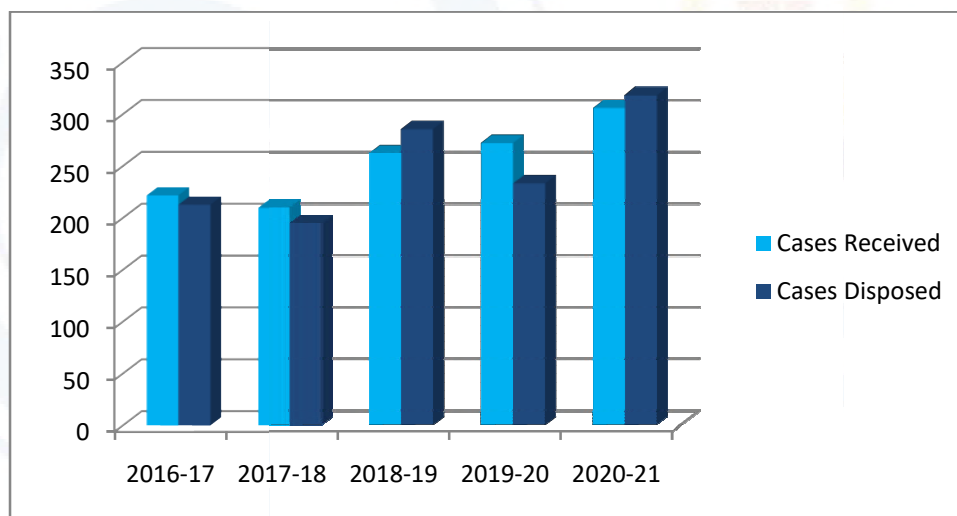


PHYSICS & BALLISTICS DIVISION

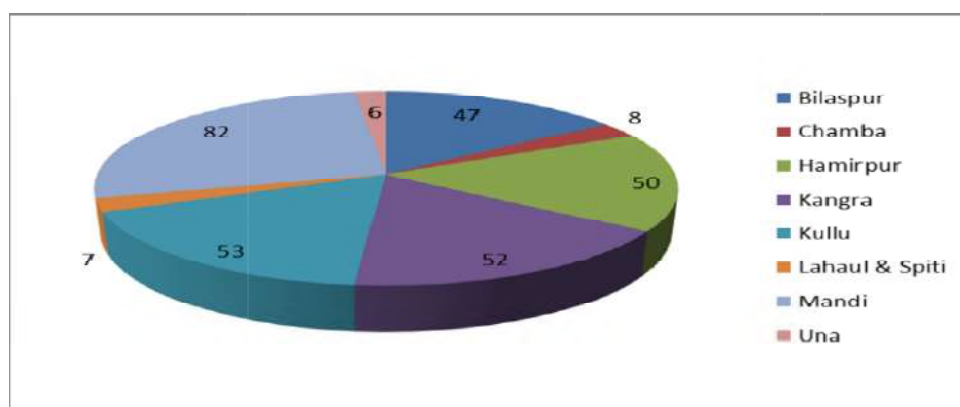
This Division plays a vital role in Crime Scene Management and undertakes examination of physical evidence found at the scene of crime so as to get essential breakthrough in the investigation process. The founder Director examined and reported Physics & Ballistics cases till September 1993 when he demitted the office. Examination work stopped and commenced again when new staff was posted in 1999. The Physics & Ballistics division undertakes examination of clue materials such as:

- Tool marks & telephone cables
- Footprints, shoe prints & tyre marks, skid marks
- Paint and glass
- Building materials & Bitumen
- Paper & fiber
- Metal adulteration in jewelry
- Soil, sand & grit
- Shining globule formation in electric short circuiting
- Resuscitation of number of stolen vehicle chassis and firearms
- Firearms, ammunition & gunshot residues etc
- Facial comparison
- Voice Analysis

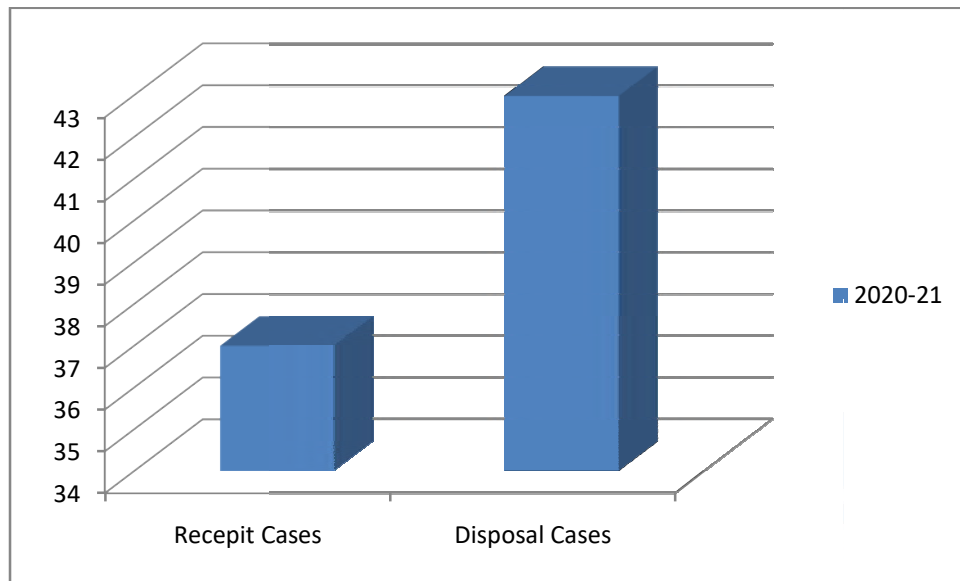
CASE STATISTICS



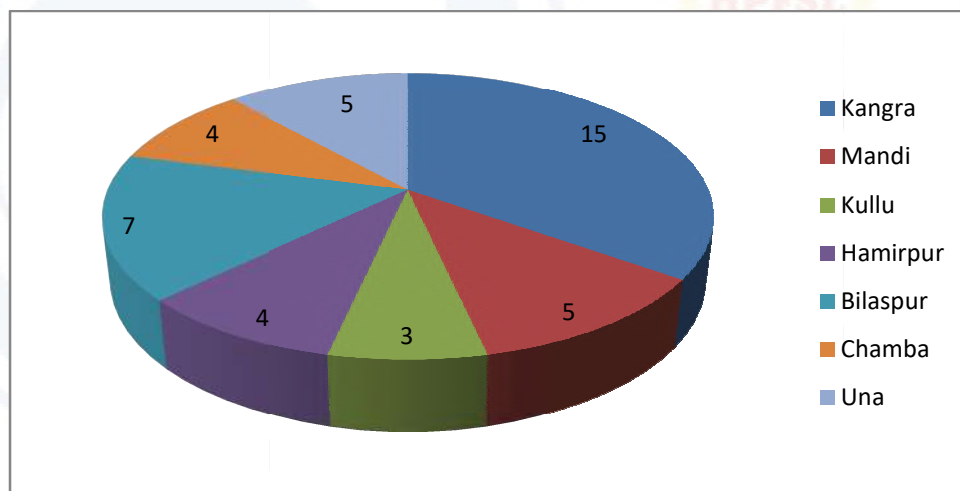
DISTRICT WISE RECEIPT 2020-21



VOICE ANALYSIS UNIT



DISTRICT WISE RECEIPT 2020-21



TEACHING AND TRAINING

Teaching and training is one of the mandates of RFSL Mandi. But during the current financial year the country witnessed an unprecedented pandemic situation and lockdown in the country. This affected the teaching and training activities and the regular courses for the IOs on forensic science could not be held. However, the lockdown also saw an increase in online teaching activities and the Deputy Director Dr Rajesh Verma organized a remote internship programme in digital forensics for the students of various universities. The Deputy Director held remote sessions of about two hours, two times a week for 3 months i.e. January to March 2021. Students from Lovely Professional University, Rashtriya Raksha University, Chandigarh University attended the programme in addition to some M.Sc. students of other University.

Name	No. of lectures / demonstrations
Dr. Rajesh Verma, Deputy Director	24

TRAININGS ATTENDED

Training of the scientific staff is also very important, with a view to keeping the experts abreast with the latest in their respective fields. The pandemic situation led to the holding of online training programmes by NICFS and we took this opportunity to expose our experts to various training courses by NICFS. The following trainings were attended by the experts of the laboratory during the year.

Name	Training attended
Dr. Rajesh Verma, Deputy Director	<ol style="list-style-type: none"> 1. Online course on Crime Scene Management including CCTV Analysis from 31.08.2020 to 04.09.2020 conducted by NICFS, New Delhi. 2. Online course on Speaker Identification and Tape Authentication from 07.09.2020 to 09.09.2020 conducted by NICFS, New Delhi. 3. Online course on Information Security, Digital Forensics and Online Social Media from 02.11.2020 to 06.11.2020 conducted by NICFS, New Delhi. 4. Online course on Forensic Report Writing Statistics and Standards from 02.12.2020 to 04.12.2020 conducted by NICFS, New Delhi 5. Online course on Imaging and Video Technology from 28.12.2020 to 30.12.2020 conducted by NICFS, New Delhi
Sh. Rajesh Kumar, Assistant Director	<ol style="list-style-type: none"> 1. Online course on Cyber Crime Investigation using OSINT from 14.09.2020 to 18.09.2020 conducted by NICFS, New Delhi. 2. Online course on Independent Response Management from 19.10.2020 to 21.10.2020 conducted by NICFS, New Delhi. 3. Online course on Forensic Report Writing Statistics and Standards from 2.12.2020- to 04.12.2020 conducted by NICFS, New Delhi.
Dr. N.P. Dubey, Assistant Director	<ol style="list-style-type: none"> 1. Online course on Analysis of Drugs and Explosives by LC-NMR and FT-IR spectroscopy from 12.10.2020 to 16.10.2020 conducted by NICFS, New Delhi 2. Online course on Forensic Report Writing Statistics and Standards from 2.12.2020- to 04.12.2020 conducted by NICFS, New Delhi..
Sh. Tek Chand, Assistant Director	<ul style="list-style-type: none"> • Online course on Forensic Examination in Sexual Assault Cases from 02.11.2020 to 03.11.2020 conducted by NICFS, New Delhi. • Online course on Forensic Report Writing Statistics and Standards from 2.12.2020- to 04.12.2020 conducted by NICFS, New Delhi.

Dr. Naresh Kumar, Scientific Officer	<ol style="list-style-type: none"> 1. Online course on Forensic Report Writing Statistics and Standards from 2.12.2020 to 04.12.2020 conducted by NICFS, New Delhi. 2. Online course on Wildlife crime and Forensic Science from 14.12.2020 to 17.12.2020 conducted by NICFS, New Delhi.
Dr. Vijay Kumar, Scientific Officer	<ol style="list-style-type: none"> 1. Online course on Analysis of Drugs and Explosives by LC-NMR and FT-IR spectroscopy from 12.10.2020 to 16.10.2020 conducted by NICFS, New Delhi. 2. Online course on Forensic Report Writing Statistics and Standards from 2.12.2020 to 04.12.2020 conducted by NICFS, New Delhi.
Sh. Sanjeev Singh, Scientific Officer	<ol style="list-style-type: none"> 1. Online course on Crime scene investigation including CCTV from 31.08.2020 to 04.09.2020 conducted by NICFS, New Delhi. 2. Online course on Cyber Crime Investigation using OSINT from 14.09.2020 to 18.09.2020 conducted by NICFS, New Delhi. 3. Online course on Forensic Report Writing Statistics and Standards from 2.12.2020 to 04.12.2020 conducted by NICFS, New Delhi.
Sh. Hari Krishan Bhardwaj, Scientific Officer	<ol style="list-style-type: none"> 1. Online course on Crime scene investigation including CCTV from 31.08.2020 to 04.09.2020 conducted by NICFS, New Delhi. 2. Online course on Forensic Examination in Sexual Assault Cases from 21.10.2020 to 22.10.2020 conducted by NICFS, New Delhi. 3. Online course on Forensic Report Writing Statistics and Standards from 2.12.2020- to 04.12.2020 conducted by NICFS, New Delhi. 4. Online course on Wildlife crime and Forensic Science from 14.12.2020 to 17.12.2020 conducted by NICFS, New Delhi.
Sh. LaxmiDutt, Scientific Assistant	Online course on Crime Scene Evidence from 21.9.2020 to 25.9.2020 conducted by NICFS, New Delhi.
Sh. Chander Kant, Scientific Assistant	<ol style="list-style-type: none"> 1. Online course on Speaker identification and Tape Authentication from 07.10.2020 to 09.10.2020 conducted by NICFS, New Delhi. 2. Online course on Crime Scene Evidence from 21.10.2020 to 25.10.2020 conducted by NICFS, New Delhi. 3. Online course on Imaging and Video technology from 28.12.2020 to 30.12.2020 conducted by NICFS, New Delhi.
Sh. Dev Raj, Scientific Assistant	<ol style="list-style-type: none"> 1. Online course on Forensic Evidences from 21.09.2020 to 25.09.2020 conducted by NICFS, New Delhi. 2. Online course on Forensic Examination in Sexual Assault Cases from 23.11.2020 to 24.11.2020 conducted by NICFS, New Delhi.
Sh. Hitesh Singh, Laboratory Assistant	<ol style="list-style-type: none"> 1. Online course on Crime scene Investigation Including CCTV from 31.08.2020 to 04.09.2020 conducted by NICFS, New Delhi. 2. Online course on Wildlife crime and Forensic Science from 14.12.2020 to 17.12.2020 conducted by NICFS, New Delhi.
Smt. Poonam Sharma, Laboratory Assistant	Online course on Crime Scene Management Including CCTV Analysis from 31.8.2020 to 05.9.2020 conducted by NICFS, New Delhi.
Sh. Pradeep Kumar, Laboratory Assistant	<ol style="list-style-type: none"> 1. Online course on Crime scene investigation including CCTV from 31.08.2020 to 04.09.2020 conducted by NICFS, New Delhi. 2. Online course on Speaker identification and Tape Authentication from 07.10.2020 to 09.10.2020 conducted by NICFS, New Delhi. 3. Online course on Imaging and Video technology from 28.12.2020 to 30.12.2020 conducted by NICFS, New Delhi.

CONFERENCE/SEMINAR/WORKSHOP/SYMPOSIUM ATTENDED

1. Deputy Director attended to conference INFOMECE 2020 organized online by Management and Science University, Malaysia and delivered the keynote talk on importance of databases in forensic science.
2. The Deputy Director also attended the Legal Desire Summit and Award and delivered an invited talk on Uncertainty in Forensic Science and Importance of Statistics.
3. Deputy Director attended the 1st International e-conference on Emerging Trends in Forensic Science and delivered a talk on the “New Paradigm of Evidence Interpretation”.

COURSES/WORKSHOP/SEMINAR ORGANIZED

Course
A three day training workshop was organized in the Accustek software.

SESSIONS CHAIRED/RADIO TALK/TV TALK/INVITED TALK

Name & Designation	Activity
Dr. Rajesh Verma, Deputy Director	The Deputy Director delivered an invited talk series in June 2020.



RESEARCH PUBLICATIONS

- Yadav V., Harshey A., Das T., Nigam K., **Sharma K.**, Srivastava A. Effect of Different Matrices on the Identification of Ignitable Liquid Residue in Post Burn Arson Debris: A Multi-Derivative UV-Visible Spectrophotometric Approach. *Asian Journal of Chemistry*, 2020: 32(11):2880-2886.
- **Pal SK, Sharma A.** Reverse Aqua Regia: A new method for extraction of diatoms from human tissue. *International Journal of Forensic Science & Pathology* 2021 8 (1): 425-429.
- Singh, A., **Sahajpal, V.**, Kumar, S., Shukla, M., Chandra, K., Sharma, L. K., & Thakur, M. (2021). Genetic evidence of shared ancestry among diverse ethno-linguistic human populations of Himachal Pradesh. *Gene*, 772, 145373.
- Kakkar, S., Shrivastava, P., **Sahajpal, V.**, Sharma, A., Devi, N., Mandal, S. P., & Kumawat, R. K. (2020). Genetic diversity of X-STR markers in Jat Sikh population of Punjab, India and its comparison with other 39 global populations. *Annals of Human Biology*, 47(5), 490-497.
- Shivkant Sharma, **Vivek Sahajpal**, Lokesh Kumari, Ritu Yadav, **Arun Sharma** (2020) Chronological development of Y-STR kits in forensics and genealogical studies: A Review. *Journal of Critical Reviews*, 7 (19), 9447-9466. doi:10.31838/jcr.07.19.1054.
- **Deepika Bhandari**, S. Patil and **V. Sahajpal** (2020). Correlation of Handprints and Footprints with respect to stature: Study on Maharashtrians of Mumbai. *Brazilian Journal of Forensics Science, Medical law and Bioethics* 10(1):91-96.
- **Deepika Bhandari, V. Sahajpal, A. Sharma** and VK Arora (2020). Forensic Science Education in India: Challenges and Opportunities. *J Forensic Sci & Criminal Inves.*; 14(2): 555885. DOI: 10.19080/JFSCI.2020.14.555885.
- MK Thakar, **V Sahajpal**, AK Bhambara, **D Bhandari** and **A Sharma**. (2020). DNA profiling of saliva traces habitually deposited on various documents: a pilot study. *Egyptian Journal of Forensic Sciences* (2020). <https://doi.org/10.1186/s41935-020-00188-1>.
- A Singh, **V Sahajpal**, S Kumar, M Shukla, **D Bhandari**, S Sharma, **A Sharma, et al.**(2021).Genetic evidence of shared ancestry among diverse ethno-linguistic human populations of Himachal Pradesh, **Gene**,Volume 772.
- DNA Forensics Profiling in Insurance Fraud: A Case Study, accepted for publication in 11th issue of AFSN, 2020. Sharma A, **Mahajan M**, Sharma N and Bhardwaj A.
- Forensics unraveled Mystery of Drowning: A Case Study, **Mahajan M, Sharma A, Sehgal A**, Sain S, Rana A, *Journal of forensic Science and Criminal Investigation* (under review).
- **Rajesh Verma**, KewalKrishan, Deepika Rani, Ajay Kumar, Vishal Sharma, Stature estimation in forensic examinations using regression analysis: A likelihood ratio perspective, *Forensic Science International: Reports*, Volume 2, 2020, 100069, ISSN 2665-9107, <https://doi.org/10.1016/j.fsir.2020.100069>.
- **Rajesh Verma**, KewalKrishan, Deepika Rani, Ajay Kumar, Vishal Sharma, Rijen Shrestha, TanujKanchan, Estimation of sex in forensic examinations using logistic regression and likelihood ratios,, *Forensic Science International: Reports*, Volume 2, 2020, 100118, ISSN 2665-910, <https://doi.org/10.1016/j.fsir.2020.100118>.

- Agreema Sharma, **Rajesh Verma**, Raj Kumar, Rohini Chauhan, Vishal Sharma, Chemometric analysis of ATR-FTIR spectra of fingernail clippings for classification and prediction of sex in forensic context, *Microchemical Journal*, Volume 159, 2020, 105504, ISSN 0026-265X, <https://doi.org/10.1016/j.microc.2020.105504>.
- Muhammad NaeimMohamadAsri, Noor FadhilahNestrgan, Nor AzmanMohd Nor, **Rajesh Verma**, On the discrimination of inkjet, laser and photocopier printed documents using Raman spectroscopy and chemometrics: Application in forensic science, *Microchemical Journal*, Volume 165, 2021, 106136, ISSN 0026-265X, <https://doi.org/10.1016/j.microc.2021.106136>.
- Taniya Arora, **Rajesh Verma**, Raj Kumar, Rohini Chauhan, Brajesh Kumar, Vishal Sharma, Chemometrics based ATR-FTIR spectroscopy method for rapid and non-destructive discrimination between eyeliner and mascara traces, *Microchemical Journal*, Volume 164, 2021, 106080, ISSN 0026-265X, <https://doi.org/10.1016/j.microc.2021.106080>.
- Anjali Sharma, Rohini Chauhan, Raj Kumar, PriyankaMankotia, **Rajesh Verma**, Vishal Sharma, A rapid and non-destructive ATR-FTIR spectroscopy method supported by chemometrics for discriminating between facial creams and the classification into herbal and non-herbal brands, *SpectrochimicaActa Part A: Molecular and Biomolecular Spectroscopy*, Volume 258, 2021, 119803, ISSN 1386-1425, <https://doi.org/10.1016/j.saa.2021.119803>.



PROFESSIONAL EXCELLENCE

Dr. Meenakshi Mahajan

- Successfully participated in the Inter Laboratory Comparison Test in field of Digital Evidence with the Laboratories notified as Examiner of Electronic Evidence u/s 79 A IT Act, 2000 by MEITY, GOI.
- The Proficiency testing in the field of Questioned Documents was successfully completed on the samples sent by the National Forensic Services, Republic of South Korea.
- The blind testing on the Chinese script samples sent by Scientific Working Group (SWG) in the field of Questioned Documents, Asian Forensic Science Network (AFSN) was successfully examined and reported.
- Attended online meeting of Scientific Working Group of Questioned Documents AFSN on 09.11.2020.
- The Ph.D thesis on the topic Studies on Inter script Comparison of Handwriting Features to Establish the Authorship submitted under my co-supervision in the Department of Forensic Science Punjabi University Patiala.
- Examiner for the evaluation M.Sc Forensic Science dissertation at UPIS Chandigarh University.

Sh. Visheshwar Sharma

- Got appreciation letter from Superintendent of Police, SV & ACB, CR, Mandi for dutifulness and efforts put for analysis of exhibits of case FIR Nos. 03/14.
- Got appreciation letter from Superintendent of Police, SV & ACB, CR, Mandi for dutifulness and efforts put for analysis of exhibits of case FIR Nos. 04/19 and 05/19.

Dr. Vivek Sahajpal

- Co-Chairperson: In the 2nd International eConference on “DNA Forensics”, 27-28th February 2021 Organized by International Association of Scientists and Researchers.
- Best Researcher Award in “International Scientist Awards on Engineering, Science and Medicine” 2021. by VD Good Professional Association.
- In Editorial Panel of Forensic Science International: Reports. An International Journal Published by Elsevier.
- Reviewer of seven international Scientific Peer Reviewed Journals.

Sh. Kapil Sharma

- Qualified International Collaborative Exercise (ICE) programme under International Quality Assurance Programme of United Nation Office on Drugs & Crime (UNODC), Vienna, Austria.
- Nominated as Member of prestigious Illicit Drugs Working Group (IDWG), Asia Forensic Science Network.

Dr. S.K. Pal

- Received ‘Forensic Investigator Excellence Award’ form Legal Desire Summit and Awards, New Delhi on 30-31 Jan, 2021 (organized through virtual mode).

Dr. Deepika Bhandari

- Included in the reviewer panel of **Egyptian Journal of Forensic Sciences** (an official publication of **The International Association of Law and Forensic Sciences** published by **Springer Nature**).
- Received **Young Researcher Award 2020** from Institute of Scholars, Bangalore.
- Received **Research Excellence Award 2020** from Institute of Scholars, Bangalore.
- Invited as **Chief Guest** at **Himachal Pradesh University** on the occasion of International Women's Day, 08th March 2021.



PUBLIC AWARENESS

Public is the first to get the information, whenever there is an occurrence, followed by the police, and then comes the turn and role of the forensic experts. Accordingly, education about role of public in preserving the crime scene treasured with clues is vital. With that in mind, first of its kind in the country, important fairs in different parts of state visited by all folks have been planned and covered to disseminate forensic knowledge. From the year 2015, for the mass awareness about forensics, forensic tableau is displayed during the State Level Republic Day Celebrations. Following exhibitions were also organized:

Sr. No	Event	Period
2.	Displayed Forensic Tableau 6 th time on State level Republic Day Celebration at the Mall, Shimla	26.01.2021
3.	International Shivratri Fair at Mandi	11.03.2021

MAJOR INITIATIVES

1. During COVID -19 Pandemic and lockdown after making arrangements for safety and protection of the staff, the mechanism as devised for acceptance of crime cases in lab, Standard Operating Procedures (SOP) prepared for lab analysis works and for scene of Crime examination duties.
2. First RFSL in the country got registered with UNODC for International Collaborative Exercise (ICE) programme in the field of Biological specimen group.
3. To sign memorandum to understanding of RFSL, NR with Central university Himachal Pradesh the matter got approved in the EC of central university of Himachal Pradesh sent to higher authorities for approval.
4. The matter of vaccination of the staff taken up with the Deputy Commissioner Kangra at Dharasmhala and the staff got vaccinated on the analogy of the front line workers
5. Drafted Long Term Storage, Archival and Periodic Validation Policy in r/o of Digital Data. And sent for approval to DFS.
6. Policy on Redundancy of Digital Data prepared and sent to DFS for approval.
7. The Proposal for creation of staff for Digital Forensic unit was prepared and submitted to DFS.
8. The proposal of creation of the posts of Data Entry Operator prepared and submitted to DFS.
9. SOP for dealing of complaints of clients, and disposal of reminder prepared and implemented.

WHO WROTE WHAT...

S.No.	Date	Name & Address	Phone	Date of Birth	Comments
		जनरल बज्र मुंबई (हि.प्र.)			आज HPFSL जुम्मा में आने का अवसर मिला। यह एक आज की आधुनिक तकनीक के माध्यम से बहुत महत्वपूर्ण प्रविष्टि बना रही है। आज भी कोर्ट नई तकनीक के कुछ आभास पुराने के इसे कोर्ट में आविष्कार के लिए कोर्ट में प्रवेश करने की दिशा में प्रयास हुआ है। यह एक आने वाले समय में अपनी प्रविष्टि को कोर्ट में आविष्कार करने की दिशा में प्रयास है। शुभकामनाओं सहित। 10/11/20

Date	Name & Address	Phone	Date of Birth	Comments
19/06/2020 to 25/09/2020	P/DySPe - 1) ANKIT SHARMA 2) SIDDHARTH SHARMA 3) GEETANJALI THAKUR 4) VISHAL VERMA	8800843575 9459103326 701891914 9882744643	01/08/1990 29/08/1987 24/04/1984 08/01/1993	All the P/DySPe had a one week attachment with SFSL Junga where we learnt about various branches of forensic science. The experts of each branch took us through in making us understand the importance of their branches in carrying out investigation. Forensic evidences can lead to 100% conviction, provided that collection and preservation of samples is done properly. We would like to thank the SFSL team for bringing out in better individuals out of

S.No.	Date	Name & Address	Phone	Date of Birth	Comments
	22-08-2020	कुमारी सौमि अहरोर Kanyaa Misra Anait Yadav Charvi Sharma Abhishek S. Mayank Chaudhary			Wonderful learning experience. Extremely cordial people. Very well explained function of various dept.

S.No.	Date	Name & Address	Phone	Date of Birth	Comments
	02/08/2021	Manoj Chauhan, NDA/IPP Presently posted as Law Officer in the office of Superintendent of Police, (H.P.)	757770002	2/02/1985	Today, I along with SC prosecution officers visited the forensic Directorate. Some of us working in the field from the last 3 years but after 3 year induction course is organized by NDA for the IPP. arranged this exposure visit of us to the Directorate and we are surprised to see how the Scientific analyses are helping the criminal justice system to achieve its ultimate aim. It was wonderful and informative visit exposure for us. I am sure that tomorrow the will be

BUDGET ALLOCATIONS 2020-21

There has been a substantial enhancement of funds received by the Directorate from the State Government and in the form of grants from the GOI. The Government has plan and non-plan budget under different budget heads. However, there was a shortfall in some budget heads. Accordingly, the matter regarding additional budget requirements was pursued at different levels and got sanctioned additional budget under non-plan budget head to the tune of Rs. 37. 21 Lacs. For the first time, budget under Center Govt. sponsored scheme was sanctioned and new budget head opened raising the number of budget heads from 8 to 10. First time, Rs. 1.65 Crore was received in the newly opened centrally sponsored scheme for machinery and equipments, Training & manpower.

1. “2055-Police-116-Forensic Science-01-State Forensic Science Laboratory” (SOON) (Non-Plan)

(Demand No. 7)

Figures in Rupees

DIRECTORATE OF FORENSICS SERVICES AND IT'S REGIONAL FSLs

Object Code/SOE	Sanctioned Budget + Additionality	State FSL H.P. Junga	RFSL Dharmshala	RFSL Mandi
01-Salary	6,63,73,000	3,50,00,000	1,50,00,000	1,60,00,000
02-Wages	6,94,000	3,10,000	3,84,000	-
03-Travel Exp.	5,22,000	3,22,000	1,00,000	1,00,000
05-Office Exp.	29,16,000	18,86,000	6,30,000	4,00,000
06-Medical Re-imb.	5,07,000	3,90,800	50,000	66,200
07-RentRate	1,000	-	-	-
09-Adv.& Publicity	2,96,000	2,96,000	-	-
10-Hosptl.& Ent.	20,000	5,370	1,130	13,500
12-PrfSer	-	-	-	-
15-Training	-	-	-	-
20-Other charges	19,53,000	15,19,280	2,59,720	2,70,000
21-Maintenance	7,65,000	7,45,000	15,000	-
27-Motor Purchase	-	-	-	-
30-Motor Vehicle	6,83,000	5,28,000	1,55,000	-
33-Material & Supply	48,85,000	45,06,800	2,30,000	1,52,200
64-Transfer Exp.	16,000	10,000	4,390	1,610
65-ReOsEmp	1,18,000	-	1,18,000	-
Total	7,97,48,000	4,55,19,250	1,69,47,240	1,70,03,510

1. “Major Head-2059-Police Works-01-Office Building-053-Maintenance & Repair-41-Maintenance of vigilance and Forensic Laboratory Buildings”

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L.Mandi
21-Maintenance	5,85,000	4,35,000	1,50,000	-
Total	5,85,000	4,35,000	1,50,000	-

2. “Under Head-2216-Housing-06Police Housing-053-Maintenance & Repair-02-Maintenance of Residential Building of State Forensic Laboratory”

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
21-Maintenance	1,000/-	-	-	-
Total	1,000	-	-	-

3. “Under Head-4055-Capital Outlay On Police Housing-00-211-Police Housing-05-Construction of State Forensic Laboratory-SOON-V-Non Plan

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
31-Machinery & Equipment.	1,000	-	-	
Total	1,000	-	-	

4. “Under Head-4055-Capital Outlay on Police Housing-00-211-Police Housing-05-Construction of State Forensic Laboratory-Soon-V-Plan”

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
31-M& E	4,86,00,000	4,84,50,000	1,50,000	-
37-Major Work	4,00,00,000	3,70,00,000	-	-
Total	8,86,00,000	8,54,50,000	1,50,000	-

5. Head “4216-Capital Outlay On Police Housing-01- Govt. Residential Building-106-General Pool Accommodation-18- Construction Of Residential Building State Forensic Laboratory”

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
37-Major-Work	86,00,000	86,00,000	-	-
Total	86,00,000	86,00,000	-	-

6. “Under Head-2055-Police-01-116-Forensic Science-02-Cyber Crime Prevention against Women and Children (CCPWC)(COON) V (Non-Plan) Centre Sponsored Scheme

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
15-Training	3,35,713	3,35,713	-	
20-Other Charges	96,500	-	-	
65-ReOsEmp	12,69,726	-	10,69,726	
Total	17,01,939	3,35,713	10,69,726	

7. “Under Head-2055-Police-01-116-Forensic Science-03-Strengthening of Forensic Science (Nirbhaya Fund) (COON) V (Non-Plan) Centre Sponsored Scheme

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
21-Maintenance	19,42,760	15,00,000	-	
33-Material & Supply	1,21,05,290	1,21,05,290	-	
65-ReOsEmp	1,04,42,693	35,00,000	9,60,000	
Total	2,44,90,743	1,71,05,290	9,60,000	

8. “Under Head-4055-Capital Outlay on Police Housing-00-211-Police Housing-05-Construction of State Forensic Laboratory-COON-V-NP (CCPWC)” Centre Sponsored Scheme

(Demand No. 7)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
31-M& E	2,06,665	2,06,665	-	
Total	2,06,665	2,06,665		

9. “2235-SOCIAL SECURITY AND WELFARE-60-OTHER SOCIAL SECURITY AND WERFARE PROGRAMMES-800-OTHER EXPENDITURES-94-PENSIONERS OF DIRECTORATE OF FORENSIC SCIENCE-SOON-V-NON PLAN (OBJECT CODE -06 MEDICAL REIMBURSEMENT)

(Demand No. 19)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
06-Medical Reimbursement	53,000	33,000	-	5,000
Total	53,000	33,000	-	5,000

10. 32-“4055-CAPITAL OUTLAY ON POLICE HOUSING-00-789-SCHEDULED CAST SUB PLAN-03- CONSTRUCTION OF BUILDING STATE FORENSIC LABORATORY” SOON (V) PLAN (Major Work-Forensic Complex Building)

(Demand No.32)

Object Code/S.O.E.	Sanctioned Budget	Allotted to State F.S.L. Junga	Allotted to R.F.S.L. Dharmshala	Allotted to R.F.S.L. Mandi
31-Mach. & Equip.	1,64,00,000	1,64,00,000	-	-
37-Major-Work	1,64,00,000	1,64,00,000	-	-
Total	3,28,00,000	3,28,00,000	-	-

Total cash receipt in respect of Internship training fee and Case examination fee for the year 2020-21

Particulars	Amount
Internship Training Fee	Rs. 80,500.00
Case Examination Fee	Rs. 2,000.00
Total	Rs. 82,500.00



CASE STATISTICS
STATE FORENSIC SCIENCE LABORATORY
(2020-21)

Name (Division)	Pending cases (1.4.20) (A)	Received cases (B)	Total (C=A+B)	Examined cases (31.3.21) (D)	Pending cases (1.4.21) (E=C-D)
Biology and Serology	73	388	461	416	45
Chemistry and Toxicology	319	1927	2246	2066	180
Physics and Ballistics	62	496	558	520	38
Documents and Photography	75	130	205	173	32
NDPS	33	1520	1553	1503	50
DNA	634	403	1037	937	100
Digital Forensics	268	280	548	408	140
Forensic Psychology	2+1*	12	14	10+1*	3
Total	1467	5156	6623	6033	588

REGIONAL FORENSIC SCIENCE LABORATORY, NR
(2020-21)

Name (Division)	Pending Cases (01-04-20) (A)	Received Cases (B)	Total (C=A+B)	Examined Cases (31.03.2021) (D)	Pending Cases (01- 04-21) (E=C-D)
Biology & Serology	38	508	546	503	43
Chemistry & Toxicology	407	1953	2360	2015	327
Documents and Photography	16	110	126	102	24
Cyber	93	242	335	284	51
Total	554	2813	3367	2904	445

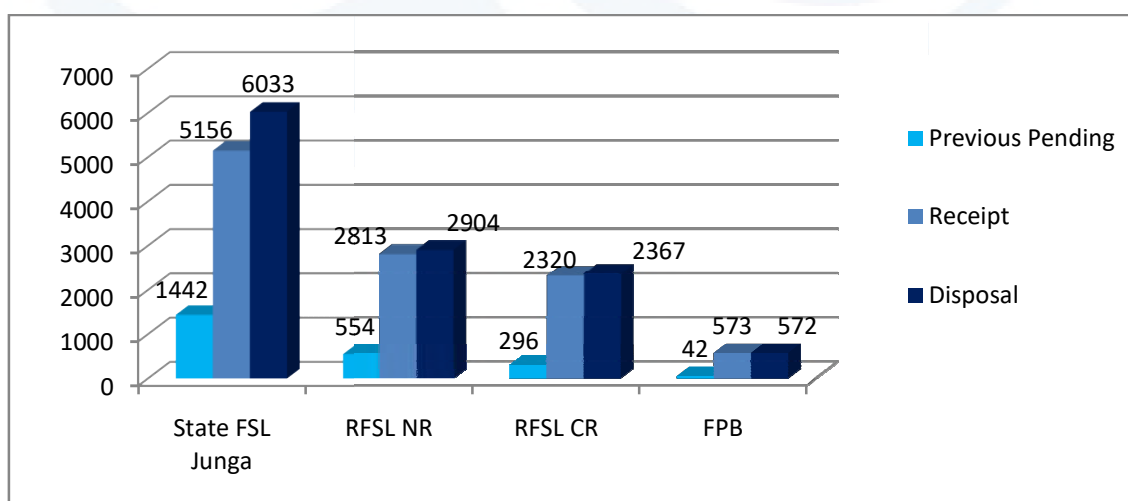
REGIONAL FORENSIC SCIENCE LABORATORY, CR (2020-21)

Name (Division)	Pending cases (01.04.2020) (A)	Received cases (B)	Total (C=A+B)	Examined cases (31.03.2021) (D)	Pending cases (01.04.2021) (E=C-D)
Biology and Serology	27	302	329	283	46
Chemistry and Toxicology	213	1712	1925	1765	160
Physics and Ballistics	56	306	362	319	43
Total	296	2320	2616	2367	249

FINGER PRINT BUREAU, SHIMLA (2020-21)

Name (Division)	Pending cases (01.04.19) (A)	Received cases (B)	Total (C=A+B)	Examined cases (31.03.20) (D)	Pending cases (01.04.20) (E=C-D)
Record Section	0	51	51	51	0
Search Section	0	502	502	502	0
Document Section	42	20	62	19	43
Total	42	573	615	572	43

COMPARATIVE STATISTICS OF STATE FSL AND RFSLs



FUTURE VISION

- ◆ District Forensic Units in all Districts
- ◆ Restructuring the organization
- ◆ Flexible Complementing Scheme
- ◆ Digitization of Record



