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अंक Volume No: 10, संस्करण Edition No: 12; जुलाई July 2025

दि लेदर पोस्ट
The Leather Post

सीएसआईआर–केन्द्रीय चर्म अनुसंधान संस्थान
CSIR-Central Leather Research Institute

JIGYASA – One Day as a Scientist

Director's Message

Greetings and Namaskar to the Stakeholders of the leather sector

Dr K J Sreeram
Director, CSIR-CLRI

लेदर पोस्ट के प्रिय पाठको,

जुलाई में प्रवेश करते हुए, चर्म उद्योग में हमारी प्रगति पर विचार करना महत्वपूर्ण है। यह संस्करण अनुसंधान को आगे बढ़ाने, नए प्रशासनिक कर्मचारियों को सशक्त बनाने, आंकड़ों का जश्न मनाने और उद्योग जगत के अग्रणी लोगों को सम्मानित करने पर जोर देता है।

विकास के लिए अनुसंधान महत्वपूर्ण है, और सीएसआईआर–सीएलआरआई से प्राप्त जानकारी इस बात पर प्रकाश डालती है। हम विशेष शोध पर हितधारकों से प्रतिक्रिया आमंत्रित करते हैं। राष्ट्रीय सांख्यिकी दिवस पर, हम निर्णय लेने में डेटा के महत्व को समझते हैं, जिससे हमें बाजार की गतिशीलता को समझने और जिम्मेदार डेटा उपयोग को बढ़ावा देने में मदद मिलती है।

नेतृत्व विकास के लिए हमारे कार्यकारी प्रशिक्षण कार्यक्रम लोकप्रिय हो रहे हैं और लीडर को भविष्य की चुनौतियों से निपटने के लिए तैयार कर रहे हैं। हम अपने उद्योग जगत के एक महत्वपूर्ण व्यक्ति, एम. एम. हाशिम को भी श्रद्धांजलि अर्पित करते हैं, जिनकी गुणवत्ता, पर्यावरणीय सुरक्षा और नवाचार के प्रति प्रतिबद्धता ने एक मानक स्थापित किया है। आइए, हम नवाचार को अपनाने और उन लोगों का सम्मान करने के लिए एकजुट हों जिन्होंने हमारे उद्योग को एक स्थायी भविष्य की ओर अग्रसर किया है।

पढ़ने का आनंद लें!

Greetings!

As we enter July, it's important to reflect on our progress in the leather industry. This edition emphasizes advancing research, empowering new administrative staff, celebrating data, and honoring industry leaders. Research is crucial for growth, and insights from CSIR-CLRI highlight this. We invite feedback from stakeholders on the featured research. On National Statistics Day, we recognize the importance of data in decision-making, helping us understand market dynamics and promote responsible data utilization. Our executive training programs for leadership development are gaining traction, preparing leaders to tackle future challenges.

We also pay tribute to MM Hashim, a pivotal figure in our industry, whose commitment to quality, environmental safeguards and innovation has set a benchmark. Let's unite to embrace innovation and honour those who have shaped our industry as we seek a sustainable future.

Happy Reading!

Alternative Process for Biomolecule Extraction: Polyethylene Glycol (PEG) Based Solvents

Deep eutectic solvents (DESs) are a promising green alternative to conventional organic solvents for a range of applications. DESs are formed by mixing a hydrogen bond donor (HBD) and a hydrogen bond acceptor (HBA), resulting in a eutectic mixture with a melting point significantly lower than that of its components. This property not only broadens their application range but also simplifies their preparation, eliminating the need for complex synthesis and high-energy inputs. Their low volatility, thermal stability, and biodegradability make them unique when compared to many organic solvents. DESs are widely used in fields including medicine, the chemical industry, and agriculture.

DESs are nontoxic and cost-effective, making them ideal for applications in sustainable extraction processes. At the outset, the extraction of biological macromolecules, particularly proteins, is a focal area for DESs applications. The ability to extract proteins efficiently while maintaining their structural integrity is essential for downstream applications.

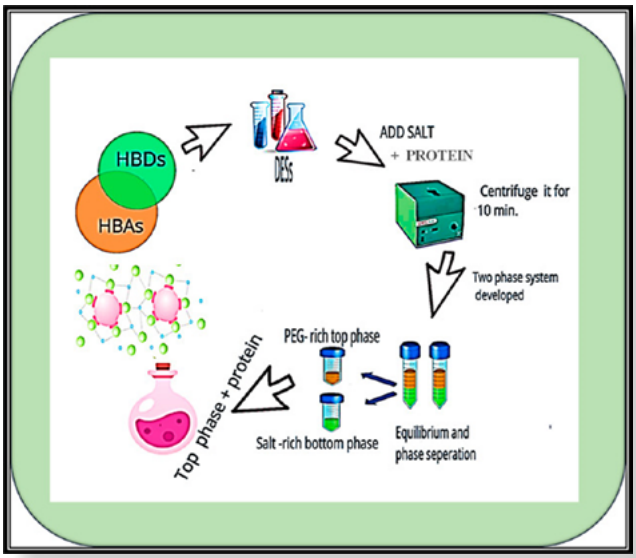
Researchers of CSIR-CLRI have selected bovine serum haemoglobin (BHb) for evaluating solvent–protein interactions as it is widely studied for its structural and functional properties. Researchers have prepared and characterised PEG-based DESs, using FT-IR, NMR, viscosity, density, and polarity assessments, and evaluated their performance in extracting BHb using an aqueous two-phase system.

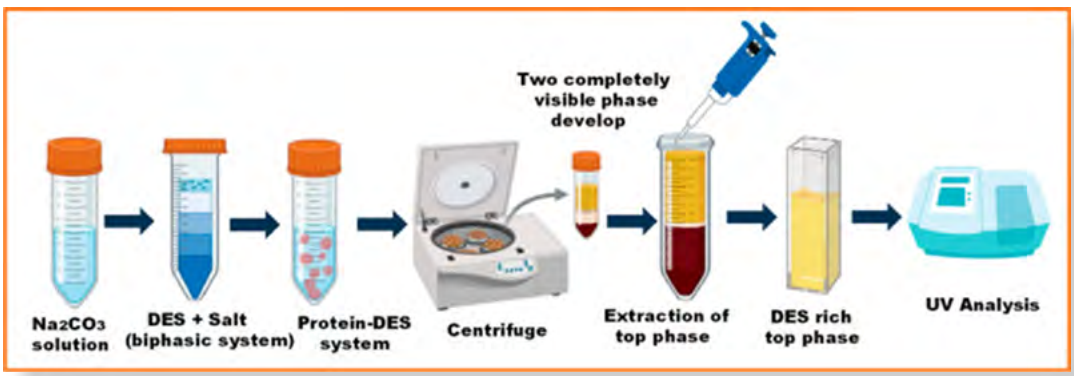
Among the DESs studied, DES-4 (PEG-600) was identified as the most suitable for protein extraction due to its optimal viscosity and polarity, which facilitated efficient phase separation and minimal protein conformational changes. These properties make DES-4 a promising eutectic mixture for sustainable and scalable protein extraction. Additionally, preliminary cytotoxicity tests confirm their biocompatibility, making them suitable for applications in protein therapeutics and drug delivery. The findings of this study highlight the potential of DESs as versatile tools in the field of protein extraction and purification and provide a foundation for sustainable green bioprocesses.

Masooma Siddiqui, Md Sayem Alam , Maroof Ali

Exploring the Potential of PEG-Based Deep Eutectic Solvents as a Sustainable Alternative for Extraction of Biological Macromolecules Bovine Serum Hemoglobin

ACS Omega. 2025 Feb 14;10(7):6839-6856.
DOI:https://pubs.acs.org/doi/10.1021/acsomega.4c09125. eCollection 2025 Feb 25





Integrated Treatment to Remove Ammonia, Copper and Organics from Wastewater

Ammonia is used in fertilizer manufacturing and the pigment industry to make dyes and pigments. These industries generate a high volume of ammoniacal contaminants in the water bodies and cause ecological imbalances, severely affecting aquatic life. Certain industries use copper-based catalysts to produce ammonia; thus, the wastewater also contains some amount of copper, organics and ammonia. Due to the significant toxicity of copper salts and ammonia, it is necessary to treat the effluent. In contrast to other methods, the Fenton-based Advanced Oxidation Process (AOPs) is easier to modify in batch as well as in a continuous process. It is environment-friendly, easy to handle, inexpensive and non-selective in degrading a wide variety of organics.

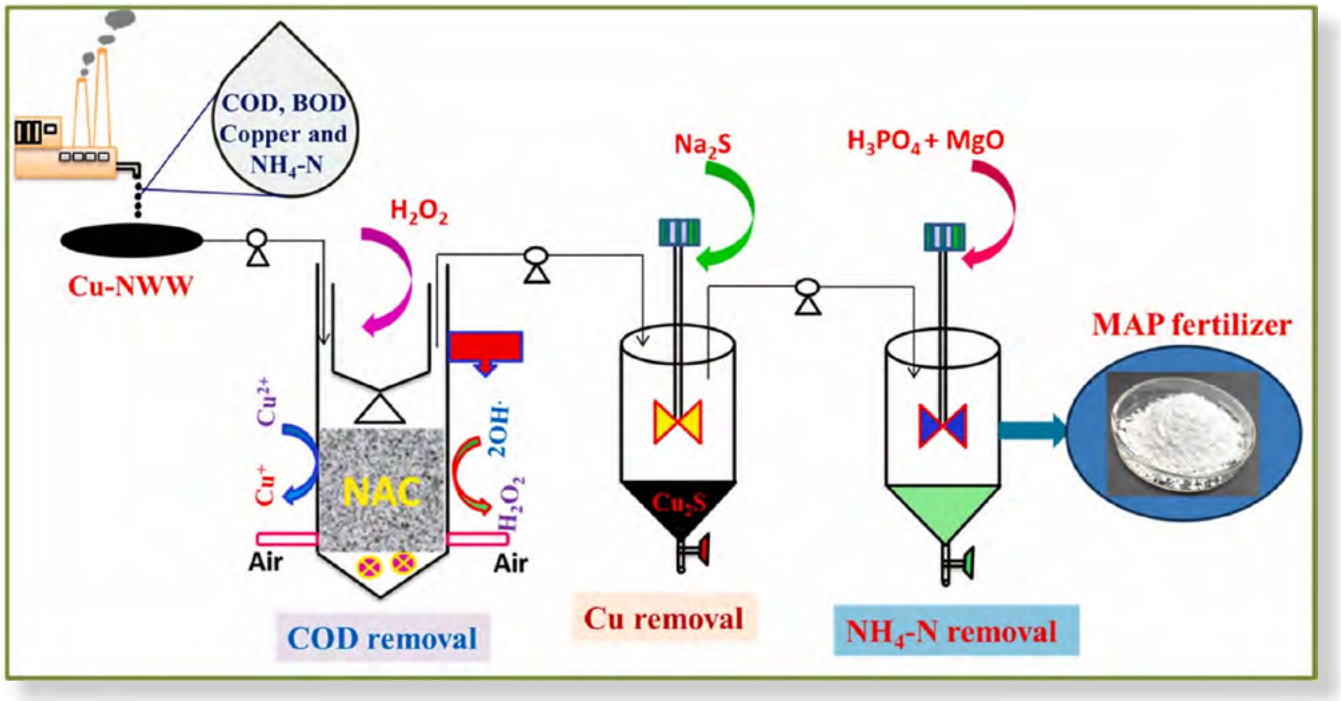
Researchers at CSIR-CLRI studied the various methods to treat ammonia-containing organics wastewater using Cu^{+}/H_2O_2 based Fenton system by utilizing Cu^{+} from wastewater itself and externally adding H_2O_2. The degradation was further enhanced by the addition of Nanoporous activated carbon (NAC) prepared from rice husk as the heterogeneous catalyst.

The removal of organics present in the wastewater in the form of Chemical Oxygen Demand (COD) is 82%. The precipitation using sodium sulphide was carried out to remove the copper. The wastewater was then subjected to a struvite precipitation process by adding magnesium oxide and spent phosphoric acid to remove and recover 96% of the ammoniacal nitrogen. The integration of the above-mentioned processes achieved 92 % COD removal, 97 % ammoniacal nitrogen removal, and 99 % Cu removal.

Maharaja, P; Murugan, KP; Karthiyayini, C; Kameswari, KSB; Sudha, D; Sabarishwaran, G; Sekaran, G.

Evaluation of fenton-like oxidation coupled with struvite precipitation for the enhanced treatment of Cu-contaminated ammoniacal nitrogen-rich wastewater

Journal of Environmental Management, volume 381, 2025, 125204**.**
https://www.sciencedirect.com/science/article/abs/pii/S0301479725011806



Hydrogen-Rich Syngas Production Using Polyaniline Based Catalyst

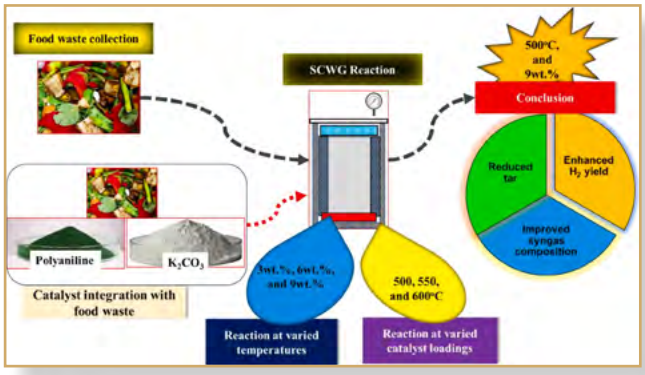
Syngas or synthesis gas is a mixture of hydrogen and carbon monoxide gases, which also contains some amount of carbon dioxide and methane. Since food waste is an abundant resource, syngas can be produced from this waste. This gas can be converted into Hydrogen (H2) gas, offering a sustainable alternative to fossil fuels. Utilizing food waste for hydrogen production helps to reduce pollution and greenhouse gas emissions. Fermentation and photocatalysis can break down organic matter in food waste, releasing hydrogen-rich gas. This approach reduces landfill waste and supports a circular economy by transforming waste into energy. Hydrogen derived from food waste can be used in fuel cells, industrial applications, and transportation, promoting a low-carbon energy transition.

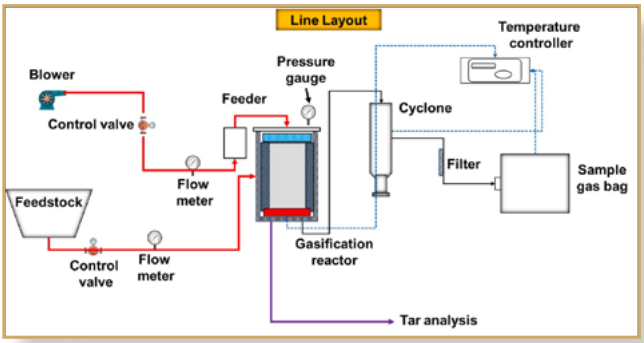
The conversion of food waste into syngas through the pyrolysis or gasification process offers hydrogen-rich fuel production while reducing organic waste. However, challenges include high energy consumption, operational complexity, and potential carbon deposition affecting the efficiency. CSIR-CLRI researcher was involved in the study of converting food waste to hydrogen production through Supercritical Water Gasification (SCWG). The SCWG was performed at a temperature ranging from 500 to 600^{0}C in the presence of Polyaniline and Potassium carbonate (PANI-K2CO3) as a catalyst. The loading condition was varied, and the results of SCWG at 6000C and higher catalyst loading show a better gasification result. At the above optimised condition, food waste to H_2 raises the molar fractions and decreases CH_4, CO_2, and CO molar fractions. The H_2 gas output increases from 36.9 to 64.6 mol/kg during thermal cracking, steam reforming, and water-gas shift processes. The syngas output is maximized by increasing gasification and hydrogen efficiency. These findings contribute to the advancement of sustainable hydrogen production technologies from food/organic waste.

K. Muthukumar, T. Loganathan , S. Senthil Kumar, Prajith Prabhakar, S. Vishnu, S. Senthil

Hydrogen-rich syngas production from food waste via supercritical water gasification: Influence of gasification temperature and polyaniline and potassium carbonate (PANI-K_2CO_3) catalyst,

International Journal of Hydrogen Energy, 141 (2025) 145–154.,
https://doi.org/10.1016/j.ijhydene.2025.05.375





Awesome Liposome! Beamhouse newsome! Sustainability fulsome!

Leather, as a commodity, stems from and thus stems sustainability itself. However, the supply chains of leather and leather products, as industrial activities, generate a huge quantum of solid and liquid wastes. Cleaner technologies have been the overarching concepts and practices of the sector for many decades now. At its core is leather biotechnology governed by a plethora of enzymes viz., protease, lipase, amylase, pepsin, trypsin, rennin, and glutaminase having specific objects, including effluent treatment. Hence, as a discipline, leather biotechnology is on its tailwind and may deploy protein engineering to usher in low-cost enzyme production at an industrial level, catering to the leather sector. Global leather sector utilizes the highest quantum of industrial enzymes, followed only by the bioethanol market. A study projected the global enzyme market at $10,519 million for the year 2024. Enzymes-over-chemicals has been the paradigm due to its catalytic action and replaceability of hazardous chemicals. Hence, leather biotechnology relates to savings of millions of gigajoules of energy and millions of tons of CO_2 per annum globally.

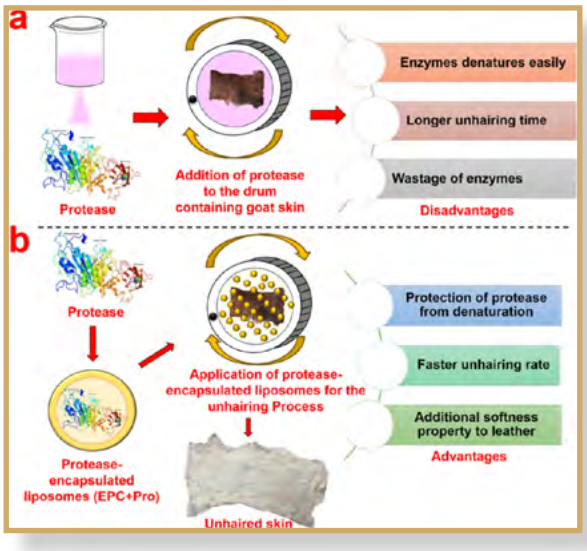
However, there are certain headwind factors for enzymes during their industrial applications: poor thermal/pH/solvent stability, high cost, poor unhairing performance, possible grain looseness, damage due to uncontrolled activity, and the denaturation of enzymes themselves due to the drumming kinetics. Immobilization of enzymes, as in nanozymes and fibrozymes countered these factors to some extent. At this juncture, scientists at CSIR-CLRI propose an encapsulation/entrapment technique involving egg-derived L-α-phosphatidylcholine (EPC) liposomes as protective carriers to encapsulate protease, aiming to improve its stability and efficacy during the unhairing process.

A liposome is a microscopic, spherical vesicle composed of a lipid bilayer, which can be engineered to encapsulate and transport a variety of substances. Its name is derived from the Greek words lipos (fat) and soma (body). Liposomes were first observed in 1965 by British hematologist Alec D. Bangham. Protease-loaded EPC liposomes have been applied to goat skins to prove their efficiency in terms of both time and behaviour. Their dual role in 'natural' fatliquoring in the pre-tanning stage itself is newness-personified. Thanks to it, liposomes could enhance significantly the softness of leather, leading to cut in fatliquor consumption, later in the post-tanning stage. Thus, the study poses a sustainable solution and eases the 'sterics' of the beamhouse operations by involving the novel liposomes. Maybe liposomes are those '*good*' fats, as far as leather making is concerned, offering a paleo-formula in combination with the protease, for toxicity reduction in the beamhouse! Yes, the proverb "*leather is made in the beamhouse*" stands tall once again and gleams relevant more than ever!

Bruntha Arunachalam, Aruna Dhathathreyan, Thanikaivelan Palanisamy

Protease encapsulated liposomes for twin benefits: a green approach to unhairing and soft leather production

Journal of Liposome Research, May 2025
https://doi.org/10.1080/08982104.2025.2504019



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July 2025

1	Bansal, D; Sivaganesan, P; Nataraj, G; Elanchezhian, C; Das, MK; Chaudhuri, S, Pentafluorophenol (C6F5OH) catalyzed Regioselective annulation for the synthesis of tetracyclic Dihydrochromeno indoles, Tetrahedron Letters, 165, 2025, 10.1016/j.tetlet.2025.155660
2	Jayadharini, J; Swaminathan, S; Kasim, MSM; Bhuvanesh, N; Karvembu, R, Ru(II)-Arene Complexes of Pyrazole-Based Acylthiourea for Anticancer Application against Ovarian Cancer Cell Lines: Effect of Arene, Halido, and Acylthiourea Ligands, Organometallics, 44 (14), 1545-1557, 2025, 10.1021/acs.organomet.5c00096
3	Kumar, SA; Gouthaman, S; Periyasamy, BK; Suguna, ML, Optically Tunable and Highly Stable Light-Emitting Polymer/PMMA Blends via the Controlled Oxidation of MEH-PPV Using Benzoyl Peroxide, ACS Omega, 10 (28), 30013-30022, 2025, 10.1021/acsomega.4c10889
4	Meganathan, MK; Arunachalam, R; Ramalingam, S, Valorization of Waste Pickle Liquor from Tanneries: A Greener Approach to Synthesize Azo Dyes, ACS Sustainable Chemistry & Engineering, 13 (27), 2025, 10285-10291, 10.1021/acssuschemeng.5c02228
5	Nagabalaji, V; Sahu, B; Sekar, Y; Bhalla, A; Srinivasan, S, Revolutionizing leather treatment with emulsified Chlorella vulgaris oil: a green fatliquor alternative, Toxicological and Environmental Chemistry, 107 (6), 1095-1113, 2025, 10.1080/02772248.2025.2515409
6	Selvaraj, S; Nishter, NF, Advances in Antioxidant Nanofibers for Skin Tissue Engineering: A Comprehensive Review, CHEMISTRYSELECT, 10 (27), 2025, 10.1002/slct.202503190

Happy Retirement!

Smt. Geethalakshmi Balaji
Principal Technical Officer
Director's Office, & Information Technology Department

The Director and Staff wish her a happy and healthy retired life

Foundation course for
Newly Recruited ASO at CSIR-CLRI

CSIR-CLRI coordinated the Foundation Course for Newly Recruited Assistant Section Officers (Gen/F&A/S&P) - Batch-IV during 09 June 2025 to 04 July 2025

On 4 July 2025, a valedictory function was organised at CSIR-CLRI, Chennai. Shri. Mahendra Kumar Gupta, Joint Secretary (Admin.), CSIR, Dr K.J. Sreeram, Director, CSIR-CLRI, Dr N. Anandavalli, Director, CSIR-SERC, Chennai & Dr TS Rana, Head, CSIR-HRDC, Ghaziabad, spoke on the occasion and distributed certificates to the participants. Mrs Simesh Verma, Sr DS and Training Manager, proposed the vote of thanks.


DG VISITS CSIR-CLRI
Concessions for Families


Value for Money


Triple Helix

Workshop on
Statistics and Data Analytics using SPSS Software

In commemoration of National Statistics Day, CSIR–CLRI organized the 3rd National Level Workshop on "Statistics and Data Analytics Using SPSS Software" on 4 July 2025 in Hybrid mode. The objective of the workshop was to enhance participants' understanding of statistical methodologies and data analytics using SPSS software. A total of 52 participants from both within and outside CSIR–CLRI attended the workshop, representing a diverse mix of academic and research institutions.

Dr. B. Ravikumar, Senior Scientist, CSIR–CLRI, spoke on Basic Statistics and Introduction to SPSS, which included topics such as Correlation, Simple and Multiple Regression and Discriminant Analysis. Dr. K. Vaitheeswaran, Scientist E, ICMR–NCDIR, Bangalore, coordinated a session on Biostatistics and Sampling Survey Techniques, covering Epidemiological Study Design, Prevalence and Incidence for Measuring Disease Frequency. Dr. S. N. Vasagam, Senior Principal Scientist, CSIR–CLRI, spoke on the Importance of Data, focusing on Applications of Artificial Intelligence in Data Science.

Participants from various disciplines, including Commerce, Food Technology, Microbiology, Animal Genetics and Breeding, Biomechanics, and Leather Technology. They represented prestigious institutions such as IISER Thiruvananthapuram, IISc Bangalore, CSIR–NIIST Trivandrum, College of Veterinary and Animal Sciences Kerala, Nagaland University, Punjab Agricultural University Ludhiana, and Tamil Nadu Agricultural University, among others. The workshop served as a valuable platform for knowledge exchange and capacity building in the areas of Statistics and Data Analytics.

The Executive Training program organised for **TATA International Limited in Dewas,** Madhya Pradesh, at CSIR-CLRI

The Centre for Analysis, Testing, Evaluation, and Research Services (CATERS) successfully conducted a technical training program titled “Executive Training on Chemical and Mechanical Parameters for Leather” from July 5 to July 15, 2025, at CSIR-CLRI.

Three technical personnel from TATA International Limited in Dewas, Madhya Pradesh, participated in this program. The training aimed to enhance participants’ understanding and practical skills in standardised methodologies for chemical and mechanical testing of leather, in line with industry best practices and regulatory requirements. During the feedback session, the officials stated that the informative training program significantly enhanced their knowledge.

Introduction to Leather Processing, Leather Products, and Testing of Leathers

CSIR-CLRI organized an Executive Training Program on "*Introduction to Leather Processing, Leather Products, and Testing of Leathers*" during 15 – 18 July 2025. The programme was designed for officials from Mercedes-Benz Research and Development India Pvt. Ltd in Pune, Maharashtra. The programme aimed to enhance their understanding of leather materials and their applications in luxury automotive interiors.

The participants were exposed to a comprehensive range of topics covering the leather manufacturing process, types and characteristics of hides and skins, various stages of leather processing (from raw to finished leather), sustainable leather technologies, and the physical and chemical evaluation of leathers. Demonstrations at the Pilot Tannery and practical sessions on the identification and classification of leather and leather products, including differentiation from synthetic materials like PU, were key highlights of the programme.

The training also included insights into finishing techniques for premium leather finishes suitable for high-end automotive interiors. The programme concluded with sessions on microscopical examination for species identification and classification of leather products as per HSN codes.

The officials from Mercedes-Benz expressed that the training was highly informative and useful. They appreciated the hands-on exposure and expert-led sessions, noting that the knowledge gained would significantly aid their work in assessing leather and leather accessories used in luxury car interiors.

Tribute to

Shri Malack Mohamed Hashim

CSIR-CLRI payed its tributes to Janab Haji Malack Mohamed Hashim Sahib, who passed away on 4 July 2025. He was the doyen of the leather industry, an ardent supporter of CSIR-CLRI all through his life. He has contributed immensely to the growth of the Institute and motivated the organisation to take up new areas of research. CSIR-CLRI commits itself to the vision of a cleaner, greener, sustainable leather industry.

A condolence meeting was held on 7 July 2025 to mourn the passing of Shri Malack Mohamed Hashim, Chairman of KH Group, a pioneer and visionary in the Indian leather industry.

Staff and Students of CSIR-CLRI gathered to honour the memory of a leader whose contributions left a lasting mark on sustainable leather manufacturing in India and beyond.

Shri Hashim was widely respected for his commitment to environmental responsibility, particularly through his unwavering support for green leather sustainability initiatives.

Dr K J Sreeram, Director, CSIR-CLRI, has recalled his association with Shri Hashim's visionary leadership, deep integrity, and dedication to both innovation and people.

The gathering concluded with a moment of silence in his memory. Shri Malack Mohamed Hashim's legacy will continue to inspire generations in the leather industry and the sustainability movement.

Guest lecture on Sustainable Fibrous Materials

CSIR-CLRI organized a guest lecture on 25 July 2025. Dr Seshadri Ramkumar spoke on Sustainable Fibrous Materials, Professor of Chemical Countermeasures and Advanced Materials, Department of Environmental Toxicology, Texas Tech University, USA.

Editor-in-Chief: **Dr KJ Sreeram, Director, CSIR-CLRI**
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For Feedback and Comments: Editor, The Leather Post; email: chandrag@clri.res.in

JIGYASA – One Day as a Scientist

CSIR-CLRI, as part of the Jigyasa programme, was excited to announce the launch of "One Day As A Scientist" during 21 – 25 July 2025

During the week-long celebrations, the young minds are to get the unique opportunity to step into the shoes of real scientists.

The programme was expected to provide:

- Hands-on experiments in cutting-edge labs
- Interactions with scientists
- Engaging science demonstrations & popular lectures
- A glimpse into the world of research and discovery

Day 1 Highlights

The One Day as a Scientist Programme at CSIR-CLRI was inaugurated at the address of Dr K. J. Sreeram, Director of CSIR-CLRI. He emphasised the importance of curiosity, asking questions, and developing a mindset for research - setting the tone for an engaging scientific experience.

Students explored a range of exciting scientific demonstrations, including 3D foot scanning, Magnetic levitation, Exhibits of leather and leather products.

In the afternoon session, they had an opportunity to visit various research laboratories to observe sophisticated instruments in action and try their hands at simple experiments under the guidance of scientists.

The atmosphere was filled with curiosity and energy, as students posed unconventional questions and exchanged ideas with researchers. The day left them visibly thrilled — a truly memorable step into the world of science!

Day 2 Highlights

On the second day of the “One Day as a Scientist” programme, Dr K. J. Sreeram, Director, CSIR-CLRI, spoke on the topic “In the Quest for Knowledge.” He emphasized that the true spirit of science lies in scrutiny, investigation, experimentation, fact-finding, exploration, and reasoning-based analysis. All of which are the cornerstones of meaningful research.

Students were shown a demonstration of three-dimensional foot scanning. They explored various types of leather and leather products and gained exposure to real-world scientific applications.

Students also visited several research laboratories, covering both experimental and computational domains. Students had the opportunity to perform hands-on experiments, interact with scientists, and experience the day-to-day life of a researcher-making the journey both educational and inspiring.

Day 3 Highlights

On day 3, Dr. N. Nishad Fathima, Chief Scientist, Inorganic & Physical Chemistry Laboratory, CSIR-CLRI gave a popular science lecture. She traced the origin of scientific thought, emphasized the importance of environmental consciousness and sustainability, and explained how waste materials can be transformed into valuable products, highlighting real-world applications of science.

Students experienced hands-on demonstrations including 3D foot scanning and plantar pressure measurements — tools used to assess force distribution across the sole during movement, a critical parameter in understanding foot biomechanics and function. They also explored various types of leather and leather products, learning about materials science and industrial applications.

A highlight for many was the magnetic levitation demonstration, where objects were suspended without physical support, held aloft purely by magnetic fields — sparking curiosity and wonder.
Students visited various research labs where they interacted with scientists. They also visited sophisticated analytical instruments, and participated in interactive do-it-yourself experiments that gave them a true taste of scientific investigation.

More than 85 students from various schools participated today. Their enthusiasm was evident as they immersed themselves in this unique experience, exploring the scientific process, experimental design, and critical thinking — all essential components of a scientist's day-to-day work.

Day 4 Highlights

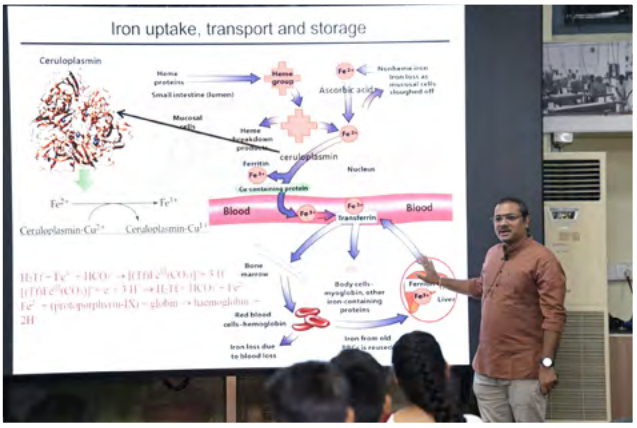
Day 5 Highlights

A special highlight of the program was the online interaction with Dr Jitendra Singh Honorable Minister of Science & Technology and Vice President, CSIR, India. Addressing school students virtually from the CSIR-National Physical Laboratory (NPL) Auditorium, Pusa, New Delhi, the Honorable Minister emphasized the importance of nurturing a scientific temperament among youth and encouraged the students to actively engage in the transformative journey of Indian science.

The ODAS Week at CSIR-CLRI witnessed enthusiastic participation from school students, who experienced a day in the life of a scientist through lab visits, interactive sessions with researchers, and demonstrations of cutting-edge technologies.


Jigy
One Day as a Scientist
for School Students

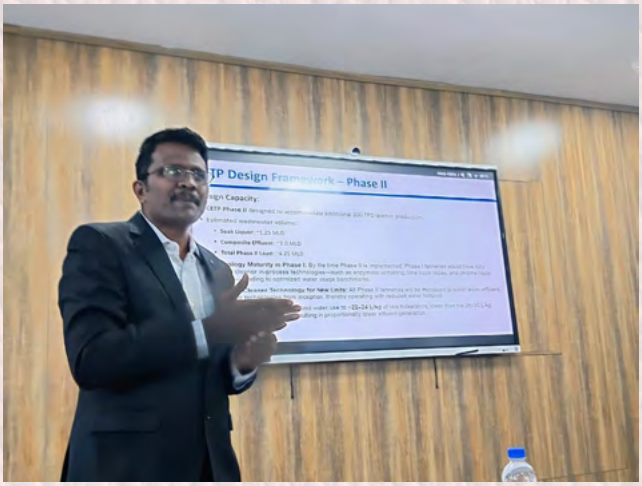

CHEMISTRY – FOREVER & EVERYWHERE


Iron uptake, transport and storage
Ceruloplasmin
Blood
Blood

Modjo Leather City Feasibility: Ethiopia

Following the successful presentation of the feasibility study on 27 June 2025 to the Ministry of Industry (MoI), Ethiopia, the CSIR-CLRI team reached another key milestone in advancing the proposed Modjo Leather City (MLC).

On 9 July 2025, the MLC feasibility report incorporating a stage-wise investment plan for phased development was presented by CSIR-CLRI team consisting of Dr P Saravanan and Dr B Madhan, at the Prime Minister's Manufacturing Council meeting, chaired by His Excellency Mr. Girma Biru. During this meeting, UNIDO formally submitted the CSIR-CLRI-prepared feasibility report to His Excellency Melaku Alebel, Senior Minister, Ministry of Industry.The team also made a presentation to Hon'ble Mr. Shimeles Abdissa, President of Oromia Region, where the MLC is proposed to be located. This continued engagement marks a major step toward building sustainable leather infrastructure in Ethiopia, strengthening South-South cooperation in industrial development.



Activities at CLRI Regional Centre, Jalandhar

On 3 July 2025 Dr P. Sudhakar, Principal Scientist, CSIR Regional Centre Jalandhar gave a guest lecture on clean processes in leather technology during the Golden Jubilee Celebration of Punjab Pollution Control Board at Jalandhar, Punjab.

Representatives from leather and other affiliated industries actively interacted and showed deep interest in CLRI's recent advancements in clean leather processing and sustainable waste management technologies.

Activities at CLRI Regional Centre, Kanpur

Shri Abhinandhan Kumar Scientist-In-Charge, Regional Centre, Kanpur participated in the International Conference on Smart Technologies for Sustainable Development in Science and Engineering ICSTSSE-2025. The event was organized by Muzaffarpur Institute of Technology, Muzaffarpur, Bihar, during 12-13 July, 2025. A Memorandum of Understanding between MIT and CSIR-CLRI was signed and exchanged during the event to join hands as esteemed collaborators for academic programmes and research & development. During the event, Shri Abhinandan Kumar, SIC, RC Kanpur, delivered a keynote address and interacted with the students of MIT Muzaffarpur.

Phenome India – Phase II at CSIR-CLRI

CSIR – Institute of Genomics and Integrative Biology (CSIR-IGIB), New Delhi, launched a pioneering health initiative titled Phenome India – CSIR Health Cohort Knowledge base (CSIR Cohort – PI-CHeCK) for the CSIR community. As one of India's largest R&D organizations, CSIR comprises a nationwide network of 37 laboratories.

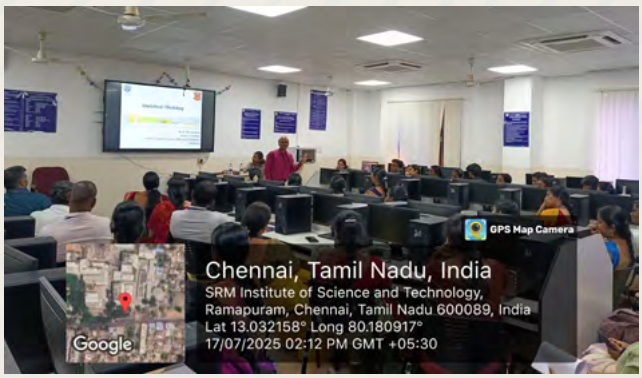
As part of this initiative, the CSIR-CLRI organised the Phase II of the "Phenome India" health check-up camp at the CLRI Dispensary, Adyar, Chennai. The PI-CHeCK study aims to develop personalised risk prediction scores for such diseases, tailored specifically to the Indian population. The long-term study will gather a wide range of information, including clinical questionnaires, lifestyle and dietary patterns, body composition, imaging assessments, blood biochemistry, and molecular assay data—capturing the health diversity of India's population. The five-day event, organised from 7 to 10 July 2025, saw the participation of around 275 individuals.
of science!

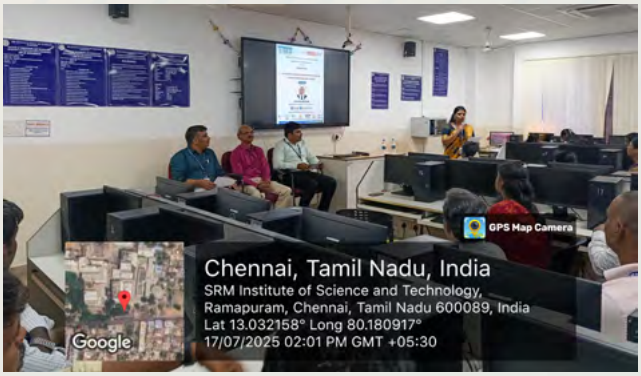
Faculty Development Programme

Dr. Malathy Jawahar, Senior Principal Scientist, CSIR-CLRI delivered a lecture on 10 July 2025 titled "*From Lab to Market: Transforming Ideas into Research Grants," a*t KCG College of Technology, Chennai. Organised as a part of the Faculty Development Programme (FDP) on Research Mastery, the objective of the programme was to equipg college faculty with insights to turn innovative ideas into successful research proposals.

Invited talk on The Role of Statistics in Evidence-Based Decision Making

Dr. B. Ravikumar, Senior Scientist, Footwear Biomechanics Unit, CSIR–CLRI, delivered an invited talk as a Resource Person on the topic "*Unlocking Insights: The Role of Statistics in Evidence-Based Decision Making*" on 17 July 2025. The session was organized for the faculty members and research scholars of the Department of Mathematics, SRM Institute of Science and Technology, Ramapuram Campus, Chennai. During the session, Dr. B. Ravikumar emphasized the significance of Statistical modeling and predictive analytics in research for decision making. He highlighted the scope, relevance, and application of statistics and research methodology across various research domains.





Water Today Conclave, New Delhi

Scientists of CSIR-CLRI Regional Centre Kanpur & Jallandhar attended the Water Conclave organized by Water Today Magazine at Kanpur on July 16, 2025. Shri Abhinandan Kumar, Scientist-In-Charge, RC Kanpur, was the Special Guest on the occasion and addressed the gathering. He emphasized the need for water conservation and responsible wastewater treatment in the leather industry.

Students visit from KUWAIT and the UAE

On 9 July 2025, the winners of the Sastra Pratibha Contest (SPC), who are students from classes 6 to 11 studying in schools in Kuwait and the UAE, visited CSIR-CLRI. The winners, selected from participants of the Science Talent Search Examination organised by Vijnana Bharati (VIBHA)

During their visit, the students interacted with scientists and gained insights into the institute's cutting-edge Leather science research and technologies. The interactive sessions covered various aspects of leather science, including leather processing techniques, innovative leather-like materials, bioinformatics applications in leather research, and an overview of the wide range of career opportunities available in scientific and industrial domains.

Visit to CSIR-CLRI Knowledge Resource Centre

Thiru Har Sahay Meena I.A.S, Tamil Nadu Archives and Historical Research, Tmt V. Muniyammal Deputy Commissioner (i/c), Thiru E. Jeganparthiban, Librarian, and Thiru Praveen, A.E., Public Works Department, visited various facilities at the CSIR-CLRI Knowledge Resource Centre

CSIR-Central Leather Research Institute

(CSIR Integrated Skill Initiative Training Programme)

CSIR-CLRI announces the commencement of the following placement oriented courses

Leather Processing

- Post Graduate Diploma Programme in Leather Technology
- Diploma in Leather Processing
- Short Term Executive Skill Development Programme in Leather Processing
- Integrated Skill Development on Quality Control Methods in Leather Manufacture
- Computerized colour Matching for Leather manufacturing

Leather and Leather products

- Post Graduate Diploma Programme in Leather Products Technology
- Quality and Visual Inspection of Leather and Leather Products
- Skill Training Programme in Leather and Leather-like materials for Emerging Entrepreneurs
- Short Term Executive Skill Development Programme in Leather Upholstery Manufacture
- Course in Fashion Design and Development for Leather Lifestyle Products

Leather Goods and Garments

- Diploma in Leather Goods Manufacture
- Short Term Executive Skill Development Programme in Leather Goods Manufacture
- Training Programme in Leather Goods Design (Manual and CAD)
- Diploma in Leather Garment Manufacture
- Short Term Executive Skill Development Programme in Leather Garments manufacture
- CAD for Garments

Allied Science courses

- Bioinformatics Associate/ Analyst
- Quality Control Chemist – Microbiology
- QA Chemist Equipment Validation - Life Sciences
- Nuclear Magnetic Resonance (NMR) Spectroscopy Analyst
- Quality Assurance Chemist
- Leather Biotechnologist
- Enzyme Technologist
- Structural Analytical Technologist
- rDNA Technologist

Leather Allied Sectors

- Short Term Executive Training Programme on Occupational Health and Safety for Leather and Allied (Product) Industries
- Short Term Executive Training Programme on Testing and Calibration for Leather Sector
- Repair, restore and maintenance of leather products
- Short Term Executive Training Programme on Waste Management for

Footwear

- Diploma in Footwear Manufacture
- Short Term Executive Skill Development Programme in Footwear manufacture
- Training programme in GAIT Analysis
- CAD for Footwear

Please visit https://clri.org/training.aspx for online / offline submission of duly filled in application

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For more info:

Website : https://clri.org/training.aspx

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