https://clri.org/

अंक Volume No: 10, संस्करण Edition No: 11; जून June 2025

दि लेदर पोस्ट
The Leather Post

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

National Technology Day & World Environment Day Celebrations at CSIR-CLRI

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,

लेदर पोस्ट के नवीनतम संस्करण में आपका स्वागत है! इस अंक में, हम अपने संस्थान में अनुसंधान एवं विकास (आर एंड डी) और प्रबंधन प्रशिक्षण पहलों के जीवंत परिदृश्य पर गहन चर्चा करेंगे, और न केवल भारत में बल्कि इथियोपिया में भी अपने प्रयासों को प्रदर्शित करेंगे। यह संस्करण हमारे अनुसंधान एवं विकास ढाँचे के विस्तार में की गई उल्लेखनीय प्रगति पर प्रकाश डालता है। उभरते शोधकर्ताओं के नए दृष्टिकोणों से लेकर अनुभवी विशेषज्ञों की अंतर्दृष्टि तक, यहाँ प्रस्तुत सामग्री उद्योग और शिक्षा जगत के बीच एक गतिशील अंतर्संबंध को दर्शाती है।

सहयोग को बढ़ावा देने की हमारी प्रतिबद्धता ने research@clri को अभूतपूर्व ऊंचाइयों पर पहुँचाया है, जो हमारे प्रतिभाशाली समुदाय के सामूहिक प्रयास को दर्शाता है। हम आपको इन पृष्ठों में प्रदर्शित विविध प्रकार की परियोजनाओं और साझेदारियों को जानने के लिए आमंत्रित करते हैं। यह चर्म अनुसंधान और नवाचार को आगे बढ़ाने की हमारी निरंतर यात्रा का प्रमाण है।

पढ़ने का आनंद लें!

Welcome to the latest edition of The Leather Post! In this issue, we delve into the vibrant landscape of Research and Development (R&D) and Management Training initiatives at our Institute, showcasing our efforts not only in India but also in Ethiopia. This edition highlights the remarkable strides we've made in expanding our R&D framework. From the fresh perspectives of emerging researchers to the insights of seasoned experts, the content here reflects a dynamic interplay between industry and academia. Our commitment to fostering collaboration has propelled research@clri to unprecedented heights, demonstrating the collective effort of our talented community. We invite you to explore the diverse range of projects and partnerships featured within these pages. It's a testament to our ongoing journey in advancing leather research and innovation.

Happy Reading!

Collagen-Based Nanocomposite for Accelerated Wound Healing

Extracellular Matrix (ECM) is a complex labyrinth of macromolecules consisting of proteins, glycoproteins, and polysaccharides that support the tissues and organs. In chronic cutaneous wounds, alteration of the ECM is due to excessive degradation of collagen. Restoration of the ECM is a challenging process because the intricate ECM network along the cells remains dysfunctional. Current therapeutic strategies mostly focus on treating symptoms or the underlying cells, instead of directly targeting ECM remodelling. Developing dynamic multifunctional biomaterials that mimic the natural ECM can offer new therapeutic avenues.

Dermatopontin (DPT), a tyrosine-rich acid matrix protein (TRAMP) and Decorin offer enormous potential for accelerating the process of wound healing. DPT enhances the collagen fibril formation and increases dermal thickness, thereby restoring dermal strength in chronic wounds. In this context, researchers at CSIR-CLRI have developed a dermal substrate consisting of an ECM molecule (collagen) and a natural polymer (chitosan), which mimics the damaged part of the tissue. These collagen dressings act as a sacrificial substrate to prevent the native collagen from being degraded. The presence of chitosan, a predominant natural biopolymer, along with collagen, helps in accelerating tissue regeneration. This hybrid collagen/chitosan (CCs) composite has high resistance to enzymatic degradation, enhanced coagulation, and mimics the extracellular membrane.

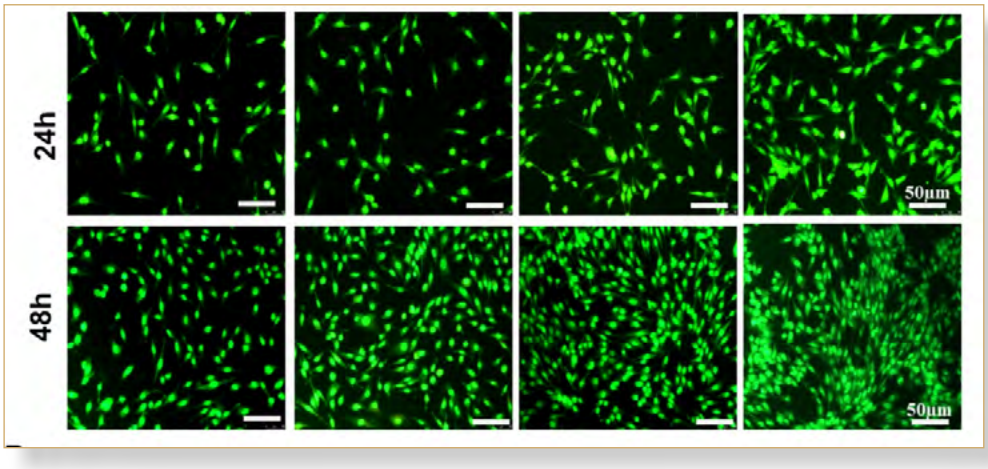
However, these natural biomaterials often exhibit poor mechanical properties. To overcome this, nanostructures are integrated into the biomaterial to enhance mechanical stability and reduce susceptibility to enzymatic degradation. These metal oxide nanoparticles have excellent scalability, robust synthesis, and exhibit high potency in tissue regeneration. Researchers at CSIR-CLRI have selected Molybdenum trioxide nanoparticles (MO NPs) for their multifunctional bioactivity and favourable safety profile. Molybdenum is an essential trace element involved in cellular metabolism, and thus the MO NPs exhibit antibacterial properties and pro-angiogenic effects.

Results from the research confirm that the nanohybrid collagen–chitosan scaffold with recombinant dermatopontin (DPT) (CCMD) developed by the researchers of CSIR-CLRI has very high wound healing efficacy. It helps in enhanced cellular migration with no harmful effects. Further, the nanocomposite provides an innovative platform for tissue-engineered scaffold materials and for advanced therapeutic strategies in chronic wound care and treatments.

Padmaja Murali, Anbuthiruselvan Solaimuthu, Purna Sai Korrapati

Biomimetic Dermatopontin-Collagen Nanocomposite for Accelerated Wound Healing and ECM Remodeling in Chronic Wound Conditions

Journal of Biomedical Materials Research Vol. 113, Iss. 6, June 2025, e37935
DOI: https://doi.org/10.1002/jbm.a.37935



Preparing Indole Derivatives Through Catalytic Reaction

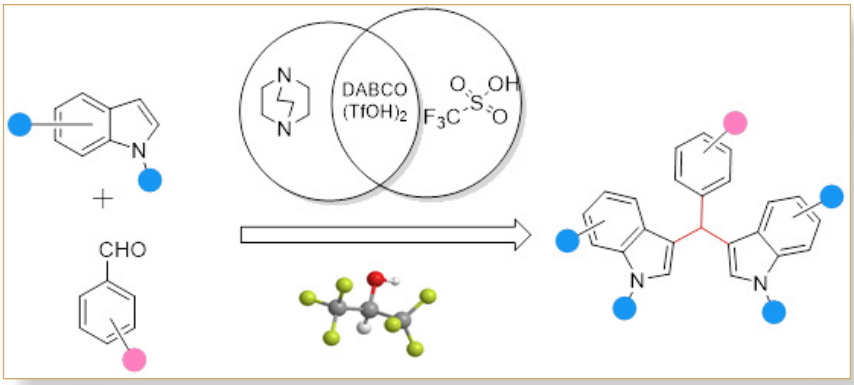
Nature creates countless varieties of organic molecules with a purpose. It is producing various types of chiral and achiral compounds by involving different combinations of atoms or groups. Among them, heterocyclic compounds are very well known and widely generated with essential roles. These heterocyclic molecules play many roles in various biological processes. In particular, indole-based molecules with over 10,000 known derivatives/analogues are exhibiting a broad range of biological activities. Out of this vast array, nearly 200 compounds are being used currently as drugs or undergoing clinical trials. The indole moiety is notable for its π-electron density and the presence of both nitrogen and carbon atoms. This distinctive framework makes indole a key building block in the development of agrochemicals, pharmaceuticals, and other functional substances.

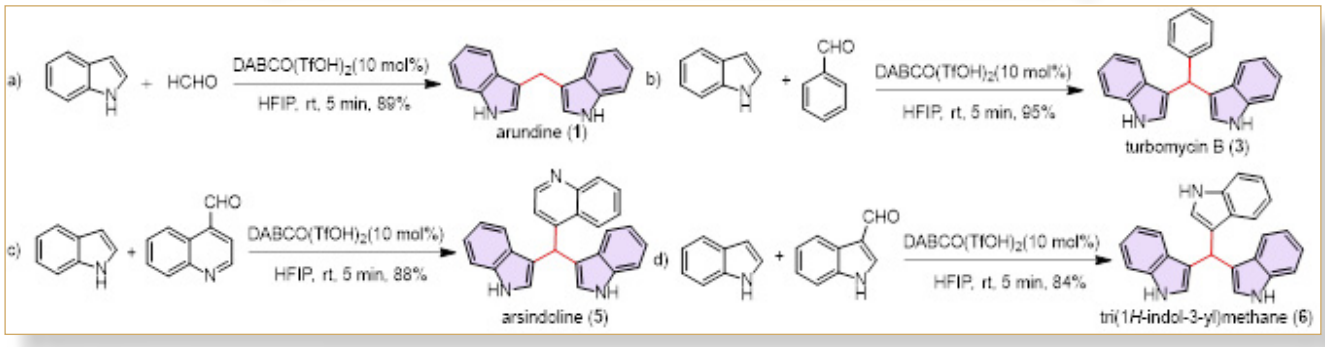
CSIR-CLRI researchers are employing catalytic methods to synthesise indole derivatives. An effective method for synthesizing 3,3′-bis(indolyl)methanes (BIMs) and their derivatives was developed through an electrophilic substitution reaction of indole with various aldehydes. Homogeneous catalytic reaction was developed by using DABCO(TfOH)$_2$ as a catalyst with hexafluoroisopropanol (HFIP) as solvent. The process, performed exclusively in DABCO(TfOH)$_2$, demonstrated excellent catalytic activity, yielding high product amounts (84-98%) and showing broad functional group compatibility, which enabled the efficient synthesis of both natural alkaloids and BIM derivatives. Interestingly, the researchers synthesised the natural alkaloids to enhance the diversity of the compound library. Mechanistic studies highlight a delicate balance between fluorinated solvent, catalyst and substrate for achieving the selective cyclisation in organic synthesis. This methodology could be utilised for the synthesis of naturally occurring BIMs such as arundine, turbomycin B, arsindoline and 3,3'-((2H-isoindol-1-yl)methylene)bis(1H-indole).

Chibisree Elanchezhian, Diksha Bansal, Ghanashyam Sivaprasad, Mrinal Kanti Das, Saikat Chaudhuri,

A New Homogeneous Catalyst for the Synthesis of 3,3'-Biss(indolyl)methanes: Collective Synthesis of Arundine, Turbomycin B, Arsindoline A, and Tris(1H-Indol-3-yl)methane,

Eur J. Org. Chem., 2025, 28, e202500396
DOI:.org/10.1002/ejoc.202500396





Big Data in Leather? Yes, LeaData is a Big (Data) leap in Traceability!

Visual searches have revolutionized the way internet users use search engines ever since Google Lens was introduced in 2017! A similar one, but a digital image processing innovation powered by Big Data application named “LeaData” by researchers of CSIR-CLRI is here around to distinguish between finished leathers in terms of their originating animal species! Automation and objectivity with accurate prediction of leather species are at the core of LeaData, in place of subjectivity-ridden traditional organoleptic assessment of leathers. Hence, LeaData empowers leather experts/specialists, regulatory officials, leather (product) manufacturers and leather connoisseurs alike! In the Indian context, the processing of mammalian outer-coverings i.e. skins/hides of buffalo, cow, goat and sheep to make distinct leathers out of them is only legal. Hence, LeaData propels traceability in turn caters directly to consumer protection, animal welfare and biodiversity and enables us to address the issues of environmental/social impacts of production, afforestation, conservation of natural landscapes and climate change mitigation. If Google Lens throws an image into the ocean of images on the web and fetches homogenous information, LeaData takes in the microscopical image of a finished leather and compares it with its curated lake of digital microscopical images and identifies the species in a jiffy! In a way, Google Lens looks outward, but LeaData looks inward!

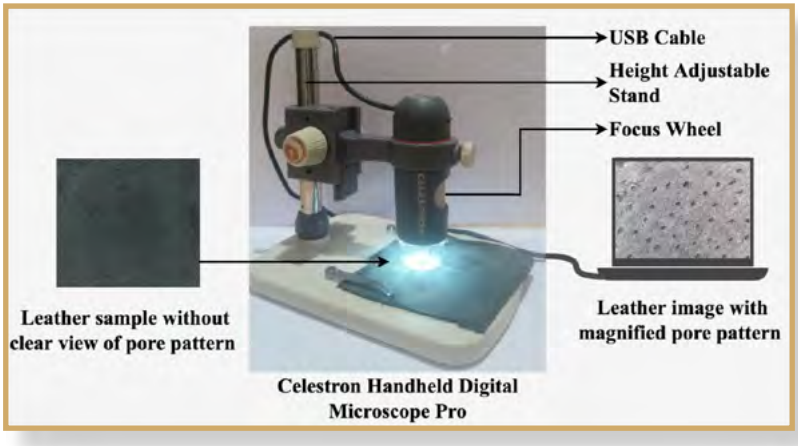
LeaData employs a handheld digital microscope for leather image capture. 47X captured species-specific grain patterns covering the entire leather surface (backbone, belly, butt, neck, shank, and shoulder) serve as reference images. In all, the LeaData banks 38,172 images of four species from 137 leather samples. Therefore, LeaData is a representative pool of leather images with absolutely diverse behavior. LeaData is vivid yet hierarchical: LeaData-V1 (1,200 images) < LeaData-V2 (7,600 images) < LeaData-V3 (10000 images). LeaData-V1 and LeaData-V2 host images from only the butt area of the species concerned and are open-sourced at the Dryad data repository, making the job of commoners easy! LeaData-V3 curates images acquired from different body parts and suits well the complex deep learning applications and big data analysis.

Images instead of texts is the new order in searching this visually dominating world! LeaData is just a start for the leather sector! It can appeal with its generic nomenclature by encapsulating a plethora of Industry 5.0 requirements with appropriate Machine Learning/ Deep Learning/Big Data applications for a sustainable leather sector. It can grow and train to be a generative AI (Artificial Intelligence) that empowers even the common man, who is often confused by the origins of species and poromeric lookalikes in the retail market. What can be special in an AI intervention if it does not equalize the expert and the novice?

Anjli Varghese, Malathy Jawahar & A. Amalin Prince

LeaData - a novel reference data of leather images for automatic species identification

Scientific Reports (Nature Portfolio), Volume 15, Article number: 4493 (2025)
https://doi.org/10.1038/s41598-025-88040-1



Biomass-derived Carbon with Conducting Polymer for Supercapacitors

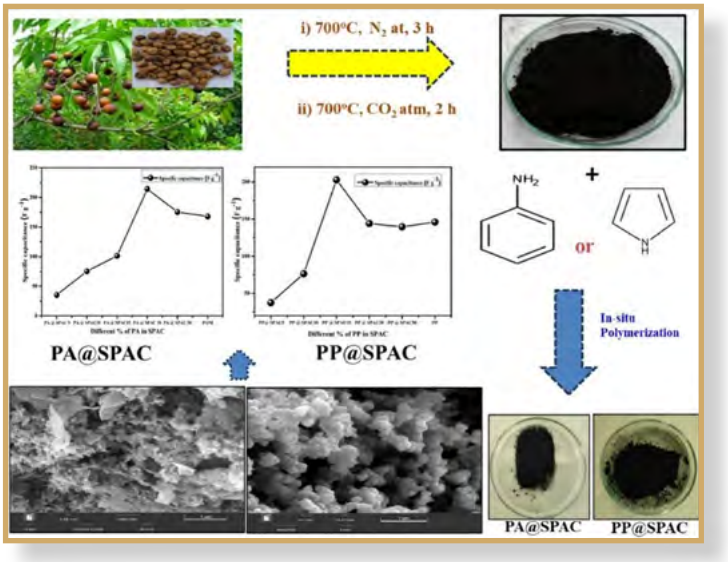
Biomass is being utilised as a commercially important raw material for the production of various products. Wood and wood waste, corn stalks, straw, sugar cane, municipal solid waste, manure, food processing wastes, plants and plant wastes and algae are well-known biomass. These materials are harvested or collected for a variety of commercial purposes. As the global demand for sustainable energy solutions grows, there is increasing interest in renewable energy sources and energy storage technologies. Apart from batteries and fuel cells, supercapacitors have emerged as promising candidates for energy storage due to their rapid charge-discharge capabilities and long cycle life. The energy storage mechanism in supercapacitors is stored via two major processes, namely, electric double-layer capacitors (EDLC) and pseudo capacitors. To enhance the performance of supercapacitors, CSIR-CLRI researchers have explored various materials, including carbon-based materials, conducting polymers, and their composites.

Nanocomposites that integrate electrostatic charge accumulation and faradic reaction mechanisms hold significant potential as high-performance supercapacitor electrodes for electrochemical energy storage. However, the development of low-cost carbon composites derived from renewable resources remains challenging. Herein, CSIR-CLRI researchers demonstrate two different conducting polymers, such as polyaniline (PA) and polypyrrole (PP), with the incorporation of biomass-derived activated carbon from Strychnos Potatorum shells (SPAC) through in-situ polymerization. The SPAC was prepared through pre carbonization followed by a physical activation method. The structural defects of polymer composites were characterized thoroughly by various physicochemical techniques including Fourier transform infrared (FT-IR), Raman, X-ray diffraction (XRD), thermogravimetric analysis (TGA), Brunauer–Emmett–Teller (BET), and Field emission scanning electron microscopy (FE-SEM). Further, the PA and PP composite electrode materials were examined by electrochemical methods such as cyclic voltammetry (CV) and galvanostatic charge-discharge (GCD) techniques. The rapid GCD characteristics of PA@SPAC30 and PP@SPAC15 are due to their excellent porosity and well-structured architectural morphology, which facilitate short ion diffusion paths and unrestricted access during GCD cycles. The specific capacitance remains 94.55 % and 95.8 % of the initial capacitance, demonstrating that the PA@SPAC30 and PP@SPAC15 electrodes exhibit remarkable cyclability over 5000 GCD cycles.

Murugan Vinayagam, Rajendran Suresh Babu, Arumugam Sivasamy, A.L.F. de Barros

Improved capacitive performance of conducting polymer with incorporation of biomass derived activated carbon for supercapacitors

Diamond & Related Materials, 154, 2025, 112165.
https://doi.org/10.1016/j.diamond.2025.112165



Publications from CSIR-CLRI

May 2025

1	Murali, P; Solaimuthu, A; Korrapati, PS, Biomimetic Dermatopontin-Collagen Nanocomposite for Accelerated Wound Healing and ECM Remodeling in Chronic Wound Conditions, Journal of Biomedical Materials Research Part A, 2025, 113 (6), 10.1002/jbm.a.37935
2	Kavalappa, YP; Stephen, NM; Jayalakshmi, KB; Sugawara, T; Manabe, Y; Hirata, T; Ponesakki, G, Siphonaxanthin inhibits the growth of breast cancer cell subtypes by modulating the expression of cellular proteins associated with antioxidant defence, cell survival and apoptosis signaling, Medical Oncology, 2025, 42 (7), 10.1007/s12032-025-02798-y
3	Muthukumar, K; Loganathan, T; Kumar, SS; Prabhakar, P; Vishnu, S; Senthil, S, Hydrogen-rich syngas production from food waste via supercritical water gasification: Influence of gasification temperature and polyaniline and potassium carbonate (PANI-K2CO3) catalyst, International Journal of Hydrogen Energy, 2025, 141, 145-154, 10.1016/j.ijhydene.2025.05.375

International Yoga Day 2025 at CSIR-CLRI

CSIR–CLRI celebrated International Yoga Day 2025 on 21 June 2025. On the occasion, a yoga session was organised at the campus for the benefit of staff, research scholars and students. Ms. Vaishnavi Venkatesh, an expert teacher and therapist in Hatha yoga, conducted a yoga session for about 65 participants. Ms. Vaishnavi Venkatesh completed her basic RYT 200 from The Yoga Institute, Mumbai, and her yoga therapist certification from the Swami Vivekananda Yoga Kendra, Mumbai.

The demonstration is a beginner-friendly Yoga practice. Vaishnavi Venkatesh guided the assembled participants in a '*Sookshma Vyayam*' and Mindful breathing session.

Foundation course for

CSIR- Assistant Section Officers (ASO)

The Foundation Course Training Programme for the directly recruited Assistant Section Officers (Batch – IV) of CSIR was organized at CSIR-CLRI, Chennai, from 9 June 2025 to 4 July 2025. A total of 59 ASOs from the General and Finance & Accounts Cadre participated in the training.

The programme was inaugurated by the Director General, CSIR and Joint Secretary (Admin), CSIR, who addressed the participants on the significance of the training and the expectations from the candidates. This was followed by the Presidential Address delivered by Dr K J Sreeram, Director, CSIR-CLRI and Special Guest Addressed by Dr N Anandavalli, Director, Structural Engineering Research Centre (CSIR-SERC) & Coordinating Director, CMC, Chennai. On this occasion, Dr K J Sreeram also made a presentation to the trainees on "*CSIR - A Journey of Excellence*".

The Training Programme was conducted by CSIR-HRDC, Ghaziabad, through eminent trainers who imparted essential knowledge and skills in areas such as CSIR Rules & Regulations, Stress Management, Team Management, Office Management and Financial Management, etc. The participants enthusiastically engaged in the programme and successfully completed the Foundation Course. The candidates were also evaluated during the course based on their participation and performance.

CSIR-CLRI extended full technical logistical support for the smooth conduct of the training programme and facilitated the trainers throughout the sessions.


DG VISITS CSIR-CLRI
Concessions for Families


Value for Money


Triple Helix

Green Tannery Initiative @ Ethiopia

The Green Tannery Initiative in Ethiopia is undertaken by CSIR-CLRI, India, and the Leather & Leather Products Industry Research and Development Centre (LLPIRC) in Ethiopia. The project is funded by the Sustainable Manufacturing and Environmental Pollution (SMEP) programme of the Foreign, Commonwealth and Development Office (FCDO). It is implemented in partnership with the United Nations Conference on Trade and Development (UNCTAD). This initiative aims to enable the Ethiopian leather sector to attain sustainability. This will be achieved through demonstration of technologies of cleaner manufacturing process and utilization of solid wastes. It is planned to demonstrate the technologies viz (a) enzyme-based, sulfide-free unhairing, (b) preparation of protein hydrolysate and tallow from fleshing waste, and (c) preparation of organic fertilizer from hair waste.

As part of the Green Tannery Initiative @ Ethiopia, a demonstration of sulfide-free enzymatic unhairing commenced on 23 June 2025 at the pilot tannery of Lowland Livelihood Resilience Project (LLRP), Addis Ababa. The trials are being conducted for production personnel from Ethiopian tanneries, using locally sourced raw hides and skins.

This initiative, aimed at significantly reducing environmental pollution in leather processing, marks a key milestone for the SMEP Program, funded by the FCDO.

The project is led by CSIR-CLRI in partnership with LLPIRC and UNIDO-Ethiopia.

CSIR-CLRI for Modjo Leather City (MLC), Ethiopia

During 23-26 June 2025, the CSIR-CLRI team engaged in a series of high-level technical discussions with UNIDO and consultants leading the Environmental and Social Impact Assessment for the proposed Modjo Leather City (MLC) in Ethiopia.

On 27 June 2025, CSIR-CLRI presented the updated feasibility report for the establishment of Modjo Leather City to the Ministry of Industry (MoI), Ethiopia. The meeting was chaired by H.E. Mr. Melaku Alebel, Senior Minister, in the presence of State Ministers H.E. Hassan Mohammed and H.E. Tarekegn Bululta, along with representatives from UNIDO, MIDI, LLPIRDC, and other members of the Technical Task Force.

The presentation was well-received at the meeting and was approved. The CSIR-CLRI team has now been entrusted with presenting the proposal to the Council at the Prime Minister's Office on 8 July 2025. This milestone reinforces CSIR-CLRI's continued commitment to enabling sustainable leather sector development through South-South partnerships.

Activities at CLRI Regional Centre, Jalandhar

CLRI-Regional Center Jalandhar organised a yoga session for International Yoga Day Celebrations on 21 June 2025. The staff of the Center participated in this event. Participants were informed about the benefits of yoga for mental and physical health.

Activities at CLRI Regional Centre, Ahmedabad

Training program on "*Making Leather Goods*"

CSIR-CLRI's Regional Centre, Ahmedabad, in association with Gujarat Rural Industries Marketing Corporation Limited (GRIMCO), Gujarat, conducted a 3-month hands-on training programme on "*Making Leather Goods*" for Women in the village of Unjha in the Mehsana District from 29 March 2025 to 26 June 2025. A total of about 30 people participated in the training.

International Yoga Day Celebration at CSIR-CLRI Regional Centre, Ahmedabad

Training program on "*Design and Development in Leather Goods*"

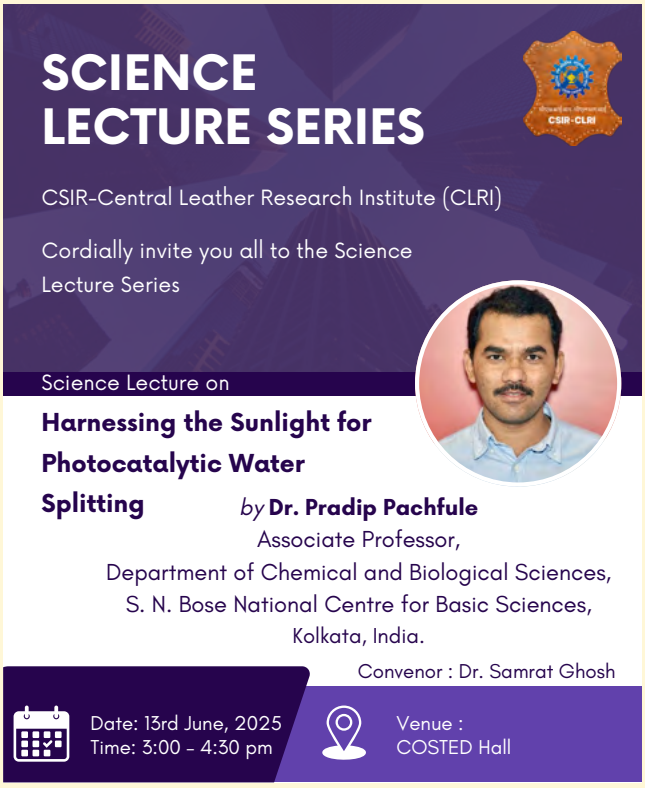
The CSIR-CLRI Regional Centre, Kolkata, conducted a 15-day introductory training program on "*Design and Development in Leather Goods*" at the Skill Development Centre, Calcutta Leather Complex, from 9 – 23 June 2025, in association with the MSME&T Department, Government of West Bengal. Fourteen trainees, including eleven women participants, underwent various cutting practices on a traced line sheet, stitching practice, mock-up preparation, and raw material selection as part of the product development process. A key highlight of the initiative includes promoting sustainable practices by transforming finished leather trimmings and cutting waste from the Calcutta Leather Complex into value-added leather products.

Shri Meghnad De, WBCS, Special Secretary, MSME&T, Government of West Bengal, graced the occasion and distributed the certificates to the trainees.

Hindi Workshop at RC Kanpur

A one-day Hindi workshop on Constitutional Provisions and Implementation of official language has been organized at CSIR - Central Leather Research Institute - Regional Centre Kanpur on 10 June 2025. Shri Abhinandan Kumar, Scientist-in-Charge inaugurated this Hindi Workshop and addressed all the employees. This workshop was conducted by Shri Dinesh Kalyanam, Hindi Officer. Shri Dinesh Kalyanam provided information about the provisions related to official language in the Constitution of India and encouraged all the employees to use official language Hindi for daily official work. He emphasized the need to increase awareness about the constitutional provisions of official language Hindi and ensure their compliance.

Science Lecture



CSIR-CLRI regularly conducts talk by eminent researchers on emerging areas of research under "*Science Lecture Series*". Science Lecture by Dr. Pradip Pachfule from the Department of Chemical and Biological Sciences, S. N. Bose National Centre for Basic Sciences, Kolkata, India delivered an engaging lecture on "*Harnessing the Sunlight for Photocatalytic Water Splitting*" on 13 June 2025 at Triple helix Auditorial, CSIR-CLRI, Chennai.

In his talk, Dr. Pachfule elaborated on the design and synthesis of Covalent Organic Frameworks (COFs) that are two- and three-dimensional crystalline porous materials notable for their highly customizable topologies and functionalities. He highlighted the critical role of photocatalysis in sustainable energy production and explained how these novel porous materials can be effective for light harvesting and chemical transformations.

The lecture offered valuable insights into frontier research on sustainable materials and renewable energy, and it was immensely beneficial for faculty and students engaged in related fields.

Remembering **Prof. Y Nayudamma**

CSIR-CLRI remembered and paid tribute to Dr. Yelavarthy Nayudamma, a leader par excellence who shaped India's leather industry into a modern manufacturing industry. He passed away on 23 June 1985, in the Air India aircraft disaster over the Atlantic. To commemorate Prof. Y Nayudamma's 40th Death Anniversary. Director and Staff of CSIR-CLRI garlanded the bust at CLRI Main Building and remembered his contributions to the Indian Leather Sector.

Glimpses of Dr Y. Nayudamma's Life and Work (Yelavarthy Nayudamma, 1922–1985).

National Technology Day & World Environment Day Celebrations

CSIR-CLRI celebrated National Technology Day & World Environment Day Celebrations 2025 on 4 June 2025.

Dr. Atul Narayan Vaidya, Vice-Chancellor, Laxminarayan Innovation Technological (LIT) University, Nagpur, graced the occasion as the Chief Guest and delivered a talk on "*Beating Plastic Pollution: Environmental and Technological Perspective"* at Triple helix Auditorium, CSIR-CLRI, Chennai during the event, the Chief Guest also distributed the Certificate of Appreciation for Successful Technology Transfer.

Tree plantation drive in CSIR-CLRI & Regional Centres

In commemoration of World Environment Day, a tree plantation drive was organised at CSIR-CLRI and the Regional Centres – Jalandhar and Kanpur. All the staff members participated in this event on 6th June 2025.

Mr. Rajani Kumar Borah and Ms. Rasmi V. Morajkar, Ph.D. scholars from the Inorganic and Physical Chemistry Laboratory, have been honoured with the Best Poster Awards at the Small Sciences Symposium 2025. Wiley Publishers and IIT Madras jointly organized the event during 11-12 June 2025.

Ms. M. Vaishali (PhD Scholar) from the CATERS, CSIR-CLRI, participated in the 5th International Conference on Waste Management (ICWM) - Recycle 2025 held at IIT Guwahati during 5-6 June, 2025 and received an award for the best oral presentation.

Editor-in-Chief: **Dr KJ Sreeram, Director, CSIR-CLRI**
Editor : **G Chandrasekar**
Editorial Team: **Dr R Srinivasan, Dr S Swarnalatha, M Vinodh Kumar, V Karthik**
Design **: G Sathiamoorthy**
Editorial Assistance **: K Thangarasu**
Visit: **https://clri.org** for the digital version of **The LEATHER POST**
For Feedback and Comments: Editor, The Leather Post; email: chandrag@clri.res.in

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

CSIR-CLRI 75

For more info:

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

Chennai : +91 44 24437109 / chord@clri.res.in ; Kolkata : +91 33 23292381 / clrikol@clri.res.in ;
Jalandhar : +91 18 12651306 / clrijal@clri.res.in ;
Kanpur : +91 512 2986936 / clrikpr@clri.res.in ; Ahmedabad : +91 79 25840352 / clriahd@clri.res.in

CAMPUS life @ CSIR-CLRI

CSIR-CLRI

Striving for Excellence and
Global Leadership in Leather Technology

https://clri.org