

INTERNATIONAL TRAINING WORKSHOP

on

Emerging Trends in Materials, Design,
Innovation and Intelligent Manufacturing of Footwear and
Leather Products in Developing Countries

CHENNAI, INDIA
30-31 JANUARY 2023



ORGANISED BY



Centre for Science and Technology of the Non-Aligned and
Other Developing Countries (NAM S&T Centre),
New Delhi, INDIA



CSIR-Central Leather Research Institute (CLRI),
Chennai, INDIA

INTRODUCTION

The global footwear market size is valued at \$365 billion in 2020 and is estimated to reach \$530 billion by 2027 with a Compound Annual Growth Rate (CAGR) of 5.5% from 2020 to 2027. As of 2018, the total number of footwear produced globally was 24 billion pairs. In 2010, the footwear production stood at 20 billion pairs, which increased by 20% till 2018. Out of the total production, 86% of the shoes were being produced in Asia. The global leaders in footwear production are China, India, Vietnam and Indonesia, which highlights the importance of R&D in this sector. Asia consumes about 40% of the world's footwear output, and this consumption is expected to rise due to emerging share of Asia in the global economy which is expanding more rapidly than what it was before the COVID-19 pandemic.

The leather goods industry has a history with very distinct shifts in end uses and materials from the use of leather products for specific functional purposes to the current market of luxury goods. Raw materials used in the leather goods industry are as diverse as the products. Leather remains important, but the use of materials such as nylon, textiles, artificial (faux) leather and even polypropylene is growing. The leather clothing market is one of the most volatile because the demand for such products depends largely on consumers' disposable income and, in many markets, on fashion trends. Historically, leather garments have been less of a luxury and more of necessities as other materials were not available as protection against cold. In many regions of the world, leather garments became the primary cold-weather outerwear. But rising wealth and the emergence of excellent synthetic fabrics for waterproof and insulating garments at affordable cost have steadily weakened the position of leather in the traditional outerwear market in most countries.

Significant changes have occurred in the industries that supply machinery, components, software, and chemicals to the footwear and other leather product industries. The demand for leather footwear has increased over the years. Of course, the definition of a leather shoe has become increasingly distorted over the years. Many shoes now use leather in conjunction with synthetic materials, but an average figure of 1.7 sq ft/pair for all types of footwear incorporating leather seems realistic. The growing demand for leather footwear, as well as the fact that this demand competes for raw material with other products, appears to be a significant business opportunity for developing countries including the African continent. The footwear industry is a valuable source of employment for developing countries. It is estimated that 10 million people are employed worldwide in the direct production of footwear and there are significant additional numbers employed in the support industries. Despite the value of the industry in improving the living standards of people in the developing world, there is little coordinated information on the industry as a whole available, particularly in the developing countries.

The range of synthetic materials used in the leather goods industry is very wide. Increasingly, materials are being used in combination to achieve a certain look or price range. Synthetic materials can be found in all types of leather goods, in luxury items as well as in cheap casual articles. As a rule, the quality of non-leather materials follows the trends of the respective market segments. Synthetic materials are especially used in the manufacture of large-size articles: travel bags, suitcases, computer cases, etc. The development of polypropylene and polycarbonate injection has resulted in the manufacture of completely new articles such as hard luggage for air travel. Today, significant progress has been made to make it possible to manufacture accessories at more competitive prices. Articles such as locks, buckles, rings, etc., which were previously made from brass and steel, are now made from injected "Zamak", a family of alloys with a base metal of zinc and alloying elements of aluminum, magnesium, and copper.

The percentage of leather used in garments has been somewhere between 10 and 15%. Over the decades, Turkey, India and China have become the dominant forces in garment leather and leather garment production, although the latter is widely scattered in the world. The glove market is consistently using about 4-5% of all leather produced. Most data indicate that some 50 billion pairs of gloves are produced annually. This estimated figure includes huge number of industrial gloves, which are a useful outlet for large amounts of suede splits, pigskin suede and other grades that tanners find hard to commercialize otherwise, whereas the dress-glove market is much smaller.

In view of the aforementioned global dynamic factors that control the leather footwear and products market and manufacturing industries, the Centre for Science & Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre), New Delhi, India jointly with the CSIR-Central Leather Research Institute (CLRI), Chennai, India announces the organization of an **International Training Workshop** on “**Emerging Trends in Materials, Design, Innovation and Intelligent Manufacturing of Footwear and Leather Products in Developing Countries**” in Chennai, India during **30-31 January 2023**.

OBJECTIVES OF THE TRAINING WORKSHOP

The primary objective of this Training Workshop is to bring together experts and various stakeholders to address the following areas that are expected to play key roles in the future of the footwear and leather product industries:

- Trends in the design of footwear and leather products
- Emerging scenarios in new material innovations
- Accessories for fashion and value addition
- Intelligent manufacturing including Artificial Intelligence and Industry 4.0 concepts
- Quality control, testing and standards for materials in footwear and leather products
- Ethics, social responsibility and sustainability for the manufacturing sectors

PROGRAMME OF THE TRAINING WORKSHOP

A tentative programme of the Training Workshop is given below:

Date	Programme			
	09.00-10.30	11.00-12.30	13.30-15.00	15.30-17.00
29 January 2023	Arrival of Delegates in Chennai, India			
30 January 2023	Inauguration	Technical Session – I	Technical Session – II	Technical Session – III
31 January 2023	Technical Session – IV	Demonstrations/ Technical Session – V	Panel discussions	Concluding Session - Discussion and Adoption of Chennai Resolution, Distribution of Certificates, Group Photo
1 February 2023	Departure of Delegates*			

A detailed Session-wise Programme with names of speakers and paper titles will be made available before the Workshop.

** The India International Leather Fair (IILF) is likely to be scheduled from 1st February 2023 to 3rd February 2023 at the Chennai Trade Centre, Chennai. Participants may consider visiting the fair at their own costs.*

VENUE

The Workshop would be organized at the CSIR- Central Leather Research Institute, Chennai, India.

ABOUT THE ORGANISERS

NAM S&T CENTRE

The Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre; www.namstct.org) is an Inter-Governmental Organisation with a Membership of 47 countries spread over Asia, Africa, the Middle East and Latin America. The Centre was set up in 1989 in New Delhi, India, based on decisions taken during various NAM Summits and mandated to undertake a variety of programmes, including organization of workshops, symposiums and training courses and implementation of collaborative projects. It also offers short-term Research Fellowships to scientists from developing countries in association with the Centres of Excellence (CoE) in various countries. The Centre also brings out technical books, monographs and other scientific publications in different S&T subjects of interest to developing countries. The Centre's activities provide an opportunity for scientist-to-scientist contact and interactions; familiarizing participants on the latest developments and techniques in the subject areas; identification of the requirements of training and expert assistance; locating technologies for transfer between the Members and other developing countries, and dissemination of S&T information etc. In addition, the Centre encourages Academic R&D-Industry interactions in the developing countries through its "NAM S&T-Industry Network".

CSIR- CENTRAL LEATHER RESEARCH INSTITUTE

Central Leather Research Institute (CLRI), Chennai was established in 1948 as a constituent laboratory of the Council of Scientific Industrial Research (CSIR), New Delhi to serve as the National Apex body for leather, leather products, leather chemicals and allied areas. The institute through the years has served as partner in providing the industry with appropriate technological solutions for their processes, products, testing, certification and other requirements. On 24 April 2022, the institute entered into 75th year of service to the nation, during which period the leather industry in India has grown from approximately USD 80 million worth raw hides/skin and semi-finished leather export in 1944-45 to ~USD 4870 million (at current exchange rate) export of finished leather and leather products in 2021-22. In this growth process, the CSIR-CLRI provided technological support for major structural changes, which included the technology readiness to comply with various environmental norms and bringing in paradigm shifts in the processing strategies adopted in India and elsewhere in the world. Today, the CSIR-CLRI continues to guide the Indian Leather Industry and also various developing countries including the African continent countries to achieve sustainable growth.

PARTICIPANTS

The Workshop programme has been primarily designed for scientists, technologists, researchers, academicians, industry people and policy makers working in the relevant areas of footwear, footwear components, leather and leather products.

The selection of the applicants will be made strictly based on merit and relevance of their current responsibilities to the subject of the Workshop as well as the quality of the extended abstract of the paper submitted by them along with the completed application form.

A pre-condition for participation in the Workshop is that the participants must submit the full manuscript of their papers, in **MS-Word format**, at least **14 days** before the commencement of the programme.

RESOURCE PERSONS

The resource persons for the Workshop will comprise eminent experts and professionals in the relevant field.

SUBMISSION OF APPLICATION

Experts and scientists desirous of participating in the Workshop, except those from India, are required to submit their application **electronically** directly to the **NAM S&T Centre** as early as possible, but latest before **Monday, 12 December 2022**.

Applicants from India should however submit their applications to the CSIR - Central Leather Research Institute, Chennai (Tamil Nadu), India.

The following documents must be submitted as e-mail attachments:

- i) Filled in Application Form (Blank form enclosed)
- ii) An extended (**about 300 words**) abstract (in **MS Word format**) of the paper that would be presented at the Workshop
- iii) A short (**maximum two pages**) CV (in **attached MS-Word format**)
- iv) Copy of the relevant pages of the passport

The documents at (ii) and (iii) above must be in MS-Word Format; PDF or image files will not be accepted. Hard copies of the Nomination Form and the above attachments are NOT REQUIRED to be submitted.

PRESENTATION OF PAPERS

Each participant will be required to present a country status report and/or a research/scientific paper on any of the themes appropriate to the Workshop.

LOCAL HOSPITALITY AND TRAVEL

Local hospitality in Chennai, including accommodation, meals and local transport for the foreign participants sponsored by the NAM S&T Centre will be provided from **29th January 2023 to 1st February 2023** (i.e. from one day before to one day after the completion of the Workshop). The participants are requested to book their flights accordingly; otherwise, they will have to make their own arrangements of stay beyond these dates.

Participants who would like to attend the Leather Fair and would be staying beyond the dates of the Workshop, they will have to book hotel beyond 12 Noon, February 1, 2023, which will be chargeable.

FINANCIAL ARRANGEMENTS FOR TRAVEL

The financial terms and arrangements for international travel of foreign participants will be conveyed to individual applicants on receipt of the Application and other documents.

ENTRY FORMALITIES AND IMMIGRATION

Participants of the Workshop must be in possession of a current passport or any other internationally recognized travel document, which must have a period of validity of at least six months beyond the period of stay in India and must be endorsed for travel to India.

Participants should have a valid visa for entry into India. The Indian diplomatic mission located in the country of the participant should be approached for obtaining an entry visa. For a large number of countries, however, online visa application is required. If required, the organisers will facilitate the issuance of visa by providing the participants with an official letter of invitation.

OTHER USEFUL INFORMATION

The weather in Chennai during the Workshop period is likely to be sunny and slightly humid with the expected temperature to be ~27°C during the day time and ~22°C during the nights.

Indian Standard Time is +05.30 hours ahead of GMT.

The Indian Currency is Rupee (INR); the present current exchange rate is US \$1 ~ 82 INR.

NOTE:

- *The governments / institutions of the selected participants will be required to bear the following costs:*
 - *All expenses in the home country incidental to travel abroad, including expenditure for passports, required medical examinations, vaccinations and miscellaneous expenses such as internal travel to the airport of departure in the home country.*
 - *Salary and other related allowances for the participants during the period of the Workshop.*
 - *Cost of medical insurance to cover the period of participation in the workshop.*
- *The organizers of this Workshop will not assume responsibility for the following expenditure in connection with the participant's attendance in the Workshop:*
 - *Expenses incurred with respect to any insurance, medical bills or hospitalization fees.*
 - *Compensation in the event of death, disability or illness of participants.*
 - *Loss of personal belongings or compensation for damage caused to them by climatic or other conditions.*
 - *Other costs, including airport tax and excess baggage.*

CONTACT DETAILS

NAM S&T CENTRE

Dr. Amitava Bandopadhyay,

Director General,

Centre for Science & Technology of the Non-Aligned and other Developing Countries
(NAM S&T Centre),

Core-6A, 2nd Floor, India Habitat Centre, Lodhi Road,
New Delhi – 110003, **INDIA**

Tel: +91-11-24645134, 24644974; Fax: +91-11-24644973

E-mail: namstcentre@gmail.com

Website: <http://www.namstct.org>

CSIR-CENTRAL LEATHER RESEARCH INSTITUTE (CLRI), CHENNAI, INDIA

Dr. K. J. Sreeram,

Director,

CSIR-Central Leather Research Institute,
Adyar, Chennai-600020, **INDIA**

E-mail: director@clri.res.in

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30-31 JANUARY 2023**

APPLICATION FORM

PLEASE TYPE OR USE BLOCK CAPITALS
(NO COLUMN SHOULD BE LEFT BLANK)

Please affix your
scanned
photograph

SECTION –A

(To be filled in by the nominee)

- 1 Name (Prof/Dr/Mr/Mrs/Ms):
(As in Passport)
2. Father's/Spouse Name:
- 3 Designation (Position held):
4. Nationality:
- 5 Date of Birth: Place of Birth (City) (Country).....
- 6 Passport No:Place of issue:
Date of Issue: Valid up to:
(Please attach copies of the relevant pages of your Passport)
- 7 Name of the Parent Institution (Employer):
Full Address (Office):
.....
Phone: Fax:
E-mail:
- 8 Full Address (Home):
.....
Phone: Mobile:
Fax: E-mail:
- 9 Educational Qualifications: Highest Degree.
Year of Award: University:
Field of Study:

- 10 Brief Bio data (CV):
(**Maximum two pages, in MSWord**; to be prepared in enclosed Format)
- 11 Abstract of your paper proposed to be presented in the Workshop.
(**About 300 Words, in MSWord**; to be attached on separate sheet)
- 12 What in your opinion qualifies you for participation in this workshop?
(To be attached on separate sheet)

Date: Signature:

SECTION -B

ENDORSEMENT BY NOMINATING AUTHORITY

(The Applicant in a member country of the NAM S&T Centre may get the following endorsement signed by the Focal Point of the Centre in his/her country, *if he/she wishes to take advantages accrued to the official nominee of the country*. For the list of member countries and names/addresses of the Focal Points please visit Centre's website www.namstct.org.)

Signature:
Name (in full):
Designation:
Date:

SEAL

Enclosures:

1. A Brief CV (maximum two pages, as per **attached** format; in MS Word only)
2. An Opinion (in MS-Word format only) on what qualifies you to attend the Workshop
3. An Extended Abstract (in MS-Word only) of the Paper that would be presented at the Workshop (300 words)
4. Scanned Copy of Relevant pages of Passport

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CURRICULUM VITAE

*Font Name: Times New Roman
Font Size: 12*

1. Personal Details:

Name: *(Prof/Dr/Mr/Mrs/Ms)* *(As in Passport)*

Designation: *Position Title*

Present Employer: *Full Address (Office)*

City/State/Province:

Country:

Nationality:

Date of Birth: *dd/mm/yyyy*

Proficiency in English Language:

Permanent Address: *Full Address (Home)*

Gender:

Contact: Mobile:

Telephone Office:

Fax:

E-mail:

Alternative e-mail:

2. Academic Qualifications: *In chronological order*

Qualification Awarded <i>Degree/Diploma/Certificate</i>	Major Subject	University/ Institution	Year <i>(From-To)</i>

3. Professional Experience: *In chronological order*

Organisation/ Institution	Position Title	Year (From-To)	Nature of duties
i.			
ii.			

Total number of years of relevant experience –

4. Research Experience: *In chronological order*

Research Title	Duration	Status

5. Experience with respect to the title of the Workshop:

6. Details of Awards/Recognitions (if any):

7. Any other information: *Not more than 50 words*

8. Recent Publications: *Only five recent publications to be mentioned*
