

# JILTA



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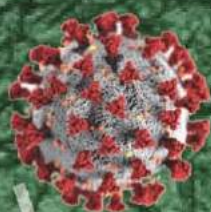
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# Our Activities

- An Association with over 600 members from India and abroad working since last 68 years for the growth and development of Leather and its allied industries.
- Organize seminars, symposiums, workshops in order to share information, knowledge & latest development and interactions for the benefit of all concerned.
- Organize Human Resource Development programmes on regular basis.
- Publish for over 60 years, a technical monthly journal namely "Journal of Indian Leather Technologists' Association" (JILTA), widely circulated through out the World.
- Publish books for the benefit of the students at various levels of study, for the Research Scholar and the Industry.
- Work as interface between Industry and the Government.
- Assist Planning Commission, various Government Institutions, Ministry and autonomous bodies to formulate appropriate policies for the growth of the Industry.
- Assist small and tiny leather goods manufacturers in marketing their products by organizing LEXPOs in Kolkata and different parts of India.

## Indian Leather Technologists' Association

[A Member Society of International Union of Leather Technologists' and Chemists Societies (IULTCS)]

'Sanjoy Bhavan', 3rd Floor, 44, Shanti Pally, Kolkata- 700 107, WB, India

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# JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION (JILTA)

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**Opinions expressed by the authors of contributions published in the  
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## JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION (JILTA)

Indian Leather Technologists' Association is a premier organisation of its kind in India was established in 1950 by Late Prof. B.M.Das. It is a Member Society of International Union of Leather Technologists & Chemists Societies (IULTCS).

The Journal of Indian Leather Technologists' Association (JILTA) is a monthly publication which encapsulates latest state of the art in processing technology of leather and its products, commerce and economics, research & development, news & views of the industry etc. It reaches to the Leather / Footwear Technologists and the decision makers all over the country and overseas.

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(Member Society of International Union of Leather Technologists and Chemists Societies)

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# INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION (ILTA)

(Member Society of International Union of Leather Technologists and Chemists Societies)

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# Automation and Indian Industry

(Concluding Part)



## Subscribe to the Jabil Blo

The proliferation of IoT products has dramatically increased expectations for ease-of-use. When industrial controls are as clear as a smartphone app, operators work quicker with fewer errors. When a consumer device is sleek and intuitive, brands shine and sales increase. And when there's a choice between a tactile touchscreen and a traditional interface, buyers choose what's innovative. The most-recognized brands worldwide and their OEMs partner with Jabil for its deep expertise with interactive components for human machine interface (HMI) — touchscreens, sensors, and tactile, haptic feedback. From design through manufacturing, from factory controls through consumer medical devices, Jabil helps integrate these diverse technologies into products that feature user-friendly HMI. Haptic technology is a particularly critical advance in HMI. With controls and devices, Jabil uses the sense of touch both to direct a machine and to guide a user. For example, in an excavator, an operator can use a soft touch on the control to lighten hydraulic force for a slow and careful dig. At the same time, if the machine encounters hard rock, it can add resistance to the control, guiding the operator to use more force. To both react to and guide user responses, touchscreens can use a variety of haptic technologies including ultrasonic vibrations, electroactive polymers, and microfluidics.

The literal definition of the Czech word for “robot,” is “Forced labor”, which made its first appearance in the 1920s. But it wasn't until the 1960s that industrial robots were introduced to the automotive manufacturing floor of an assembly plant. More scientifically, the ISO 8373:2012 defines an industrial robot as “an automatically controlled, reprogrammable, multipurpose manipulator, programmable in three or more axes, which can be either fixed or mobile for use in industrial automation application.” Within the manufacturing industry, however, we consider industrial robots as labor that can perform dangerous or repetitive tasks required for

manufacturing operation with a high degree of accuracy. The first industrial robot, Unimate, joined the assembly line at the General Motors plant in Ewing Township, New Jersey, in 1961. It was an automated die-casting mold that released blistering-hot door handles and other auto parts into vats of cooling liquid on a production line that moved them along to workers for final finishing and buffing.

The programmability of industrial robots was largely a tool that could allow them to be used for a variety of different tasks, but it didn't really give them intelligence. They completed monotonous and unsafe tasks and were deployed for their precision and repeatability. As a result, the automotive industry has been the most important customer of industrial robots since 2010, according to the International Federation of Robotics. Industrial robots have revolutionized the industrial workplace across industries since their introduction to the manufacturing landscape. In fact, the industrial robots market is projected to be worth more than \$66 billion by 2027, exhibiting a CAGR of 15.1% during the forecast period.

Here are the specific tasks traditional industrial robots are designed to perform :

## 1. Arc Welding

Arc welding, or robot welding, became commonplace in the 1980s. One of the driving forces for switching to robot welding is improving the safety of workers from arc burn and inhaling hazardous fumes.

## 2. Spot Welding

Spot welding joins two contacting metal surfaces by directing a large current through the spot, which melts the metal and forms the weld delivered to the spot in a very short time (approximately ten milliseconds).

### 3. Materials Handling

Material handling robots are utilized to move, pack and select products. They also can automate functions involved in the transferring of parts from one piece of equipment to another. Direct labor costs are reduced and much of the tedious and hazardous activities traditionally performed by human labor are eliminated.

### 4. Machine Tending

Robotic automation for machine tending is the process of loading and unloading raw materials into machinery for processing and overseeing the machine while it does a job.

### 5. Painting

Robotic painting is used in automotive production and many other industries as it increases the quality and consistency of the product. Cost savings are also realized through less rework.

### 6. Picking, Packing and Palletizing

Most products are handled multiple times prior to final shipping. Robotic picking and packaging increases speed and accuracy along with lowering production costs.

### 7. Assembly

Robots routinely assemble products, eliminating tedious and tiresome tasks. Robots increase output and reduce operational costs.

### 8. Mechanical Cutting, Grinding, Deburring and Polishing

Building dexterity into robots provides a manufacturing option that is otherwise very difficult to automate. An example of this is the production of orthopedic implants, such as knee and hip joints. Buffing and polishing a hip joint by hand can normally take 45-90 minutes while a robot can perform the same function in just a few minutes.

### 9. Gluing, Adhesive Sealing and Spraying Materials

Sealer robots are built with numerous robotic arm configurations that enable the robot to apply adhesives to any type of product. The primary benefit in this application is increased quality, speed and consistency of the final product.

### 10. Other Processes

These include inspection, waterjet cutting and soldering robots, etc.

*Goutam Mukherjee*

**Dr. Goutam Mukherjee**  
Hony. Editor, JILTA

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*Read and Let Read :-*

JILTA



Tell me and I forget, teach  
me and I may remember,  
involve me and I learn

Stahl Campus®

#### Leather process



As an active proponent of responsible chemistry, Stahl has established the Stahl Campus® training institute in its Center of Excellence for sustainable leather technologies in Kanpur. With our Stahl Campus® Leather Modules, we can offer training and information, such as responsible chemistry and sustainability in leather production. We believe that in this way, we facilitate transparency that inevitably will lead to a better supply chain with responsible chemistry.

Our approach is modular, making it easy to tailor learning programs to specific needs. Stahl Campus® has at its core the drive to unlock human potential and make that new

competitive advantage. By providing the possibility of sharing knowledge, we embrace our role in the dynamic leather and chemical industry. Stahl Campus® is a great opportunity to strengthen skills and capabilities in order to make working methods more efficient by sharing experiences and studying products and procedures.

If you're interested to receive more information on Stahl Campus®, please contact Prasanna Maduri ([Prasanna.maduri@stahl.com](mailto:Prasanna.maduri@stahl.com)).

If it can be imagined, it can be created.

## We imagine sustainable solutions for the beamhouse and tanning process

Stahl BeTan®



Tanners are facing growing environmental challenges as the market increasingly demands that high-quality leathers are produced more responsibly. Contributing to a more ecological leather production process, our responsible beamhouse portfolio helps tanners meet these challenges without compromising on the quality of the leather.

The Stahl BeTan® portfolio consists of a complete range of responsible solutions for every step in the beam house and tanning process, from soaking to liming and bating. Using the best-in-class responsible technologies from the Stahl BeTan® portfolio, tanners can reduce their water consumption and the amount of sulfides, solids and salt used during leather production.

Moreover, it can result in a shorter production process. Building on years of experience in beam house operations and acquiring the best technical experts in the world, Stahl has become the go-to partner when it comes to sustainable beam house and tanning solutions. Our Stahl BeTan® solutions demonstrate Stahl's continuous commitment to Responsible Chemistry, aimed at reducing the environmental impact of leather-making.

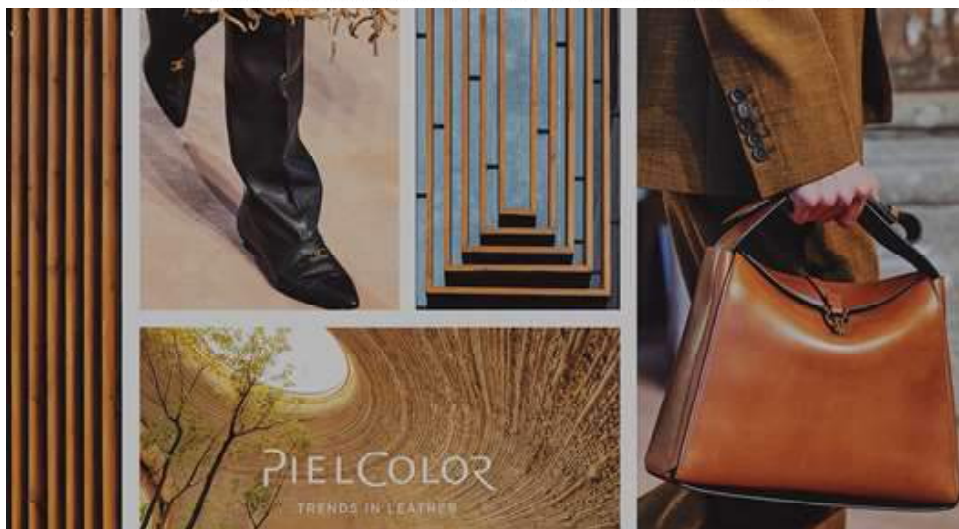
If you would like to know more about Stahl BeTan®, and what we can do for your business, visit [stahl.com](https://stahl.com) or contact [david.sabate@stahl.com](mailto:david.sabate@stahl.com)

[stahl.com](https://stahl.com)





## STAHL STRENGTHENS LEATHER-FINISHING OFFERING WITH FULL INTEGRATION OF PIELCOLOR



Stahl, announces on Waalwijk, the Netherlands, 24 August 2021 their plans to fully integrate its leather-finishing subsidiary, PielColor, into its core business by the end of 2021. The move will see PielColor's products and expertise brought entirely in house, strengthening Stahl's offering to its customers while improving the visibility and reach of the PielColor brand.

Stahl acquired PielColor, a company specializing in the manufacture and marketing of chemical products for leather finishing, in 2004. The subsidiary focuses on specific customer segments within the leather market, such as high-fashion brands, and is known by customers for its support-driven and solutions-oriented approach. PielColor also offers several innovative product lines, including a range of low-impact water-based topcoats, which it is able to tailor to its customers' requirements.

In late 2020, the decision was taken to fully integrate PielColor, positioning it alongside Stahl as a core brand within the Stahl group. Full integration will strengthen Stahl's position in the leather-finishing market by leveraging PielColor's well-established reputation and extensive range of innovative responsible chemistry solutions. Marketing PielColor as a Stahl group brand will also drive the visibility and market reach of PielColor products, including in regions where they are less well established.

The integration program will continue to take place over the remainder of 2021, with all parts of the PielColor business expected to be fully operational under the new structure by the end of the year.

Xavier Rafols at Stahl: *"PielColor has been adding tremendous value to the Stahl family for more than 15 years. Now it is time to take the next step by integrating PielColor fully into the group as a key brand alongside Stahl. I am convinced that this will deliver further long-term benefits for our business and our stakeholder community. I look forward to seeing PielColor's unique form of responsible chemistry add value to even more customers and end-users around the world in the years ahead."*

*(Stahl News – 24/08/2021)*



## STAHL'S SUSTAINABILITY EFFORTS REWARDED WITH GOLD RATING FROM ECOVADIS



Stahl, announced it has achieved an EcoVadis Gold rating, placing it within the top 5% of companies assessed by EcoVadis. The award underlines Stahl's commitment to ensuring transparency in the value chain and collaborating with partners to improve the sustainability of operations and products.

EcoVadis is a globally recognized evidence-based assessment platform that reviews the performance of an organization across areas key to meeting sustainability targets, including the environment, labor & human rights, ethics, and sustainable procurement impacts. The latest report from EcoVadis highlights Stahl's positive performance across all these areas.

This year's Gold rating builds on the Silver rating achieved in 2020. In the past year, together with partners from across the value chain, the company has further committed to improving its environmental and social performance, protecting the communities in which it operates, and shaping a better chemical industry. Stahl's 2030 target is to maintain the EcoVadis Gold rating through continual improvement.

Michael Costello, Director of ESG: "Our new EcoVadis rating is a great achievement – one delivered through the hard work and dedication of many Stahl colleagues across the world. Our EcoVadis Gold rating underlines our commitment to ensuring a better world for all our stakeholders, and highlights that we are a trusted partner when it comes to ESG."

*(Stahl News – 12/07/2021)*



## *From the desk of* General Secretary

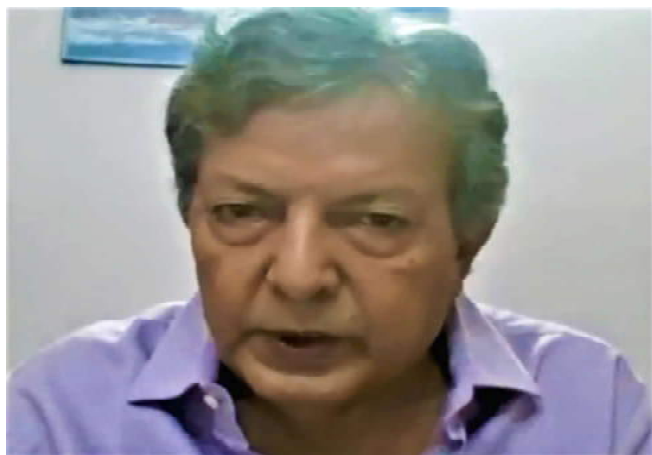


### 71<sup>ST</sup> FOUNDATION DAY CELEBRATION & PROF. B. M. DAS MEMORIAL LECTURE



At the present scenario due to pandemic COVID – 19 and frequent Lock down, the above was organized on virtual platform (Web based Zoom Cloud), on Saturday the 14<sup>th</sup> August, 2021 at 05.00 PM onwards.

The programme commenced with the introductory speech by Mr. Susanta Mallick, General Secretary, ILTA, followed by Welcome Address by the President of ILTA Mr. Arnab Jha.



In his address Mr. Jha recalled the 71 years old history of the association and welcomed to all the Dignitaries, Awardees, Speaker and the Participants in the program.

Thereafter Mr. Mallick announced the names of the award winners and informed them that the respective awards would be sent to them through courier.



- a) **Mr. Debdeep Bhattacharya** – Winner of both B. M. Das Memorial Medal & J. M. Dey Memorial Medal for securing 1<sup>st</sup> Class 1<sup>st</sup> Position in B. Tech, Leather Technology Examination of Moulana Abul Kalam Azad University of Technology, West Bengal in 2021.

- b) **Ms. P. Amirtha** – Winner of B. M. Das Memorial Medal for securing 1<sup>st</sup> Class 1<sup>st</sup> Position in B. Tech, Leather Technology Examination of Anna University, Chennai in 2021.



- c) **Ms. T. Shwetha** – Winner of B. M. Das Memorial Medal for securing 1<sup>st</sup> Class 1<sup>st</sup> Position in M. Tech, Footwear Science & Engineering Examination of Anna University, Chennai in 2021.

- d) **Prof. Pankaj Kumar Tyagi**

– Winner of J. Sinha Roy Memorial Award for his article titled “Socio-Environmentally Sustainable Practices - A Review on Research Methodologies and Research Gaps” published in August, 2020 issue of JILTA adjudged the Best of all articles published in JILTA in calendar



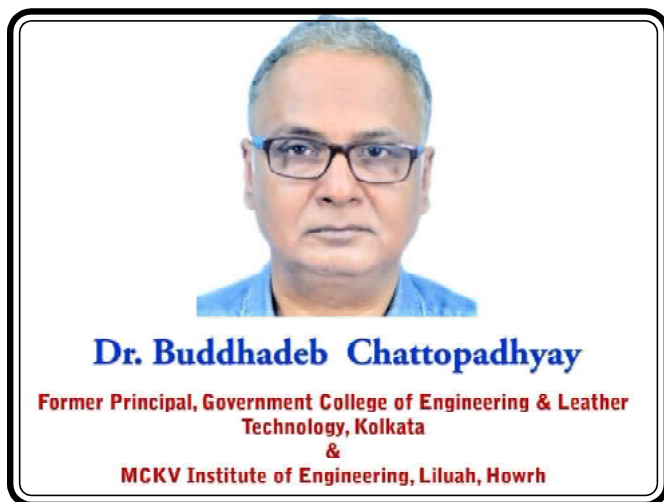
year 2020 by a committee consisting of Prof. (Dr.) Sanjoy Chakraborty, OIC, GCELT and Dr. Dipankar Chaudhuri, former Scientist & Head, RCED, CLRI, Kolkata.



Mr. Mallick then introduced two dignitaries namely, Dr. Buddhadeb Chattopadhyay, former Principal of Govt. College of Engineering & Leather Technology, Kolkata and former Principal of MCKV Institute of Engineering, Howrah and Dr. J. Raghava Rao, Chief Scientist & Head, Anna University, Chennai and Professor, AcSIR, who were felicitated for their lifetime achievements in their respective field during this prestigious occasion.



Biography of Dr. Chattopadhyay & Dr. Raghava Rao was read out by Mr. Mallick followed by digital presentations on their Remarkable Achievements in their carrier. Mr. Mallick then requested them to deliver few words on themselves. After completion, Mr. Mallick announced to send the Mementos, Shawls & Citations to their respective correspondence address in due course.



Highlights from the Biography of both the renowned personalities above are extracted under “Felicitation Corner” in this issue. (Page no19)

Mr. Jha then introduced **Dr. K. J. Sreeram, Director, CSIR-CLRI, Chennai & Vice President, Southern Region of ILTA** & the hon’ble Speaker of the day to the participants and requested him to deliver the Prof. B. M. Das Memorial Lecture.



Dr. Sreeram then delivered his most valuable lecture titled **“Sustainability in Leather and Footwear Sector”**.



After completion of the lecture, Mr. Mallick offered heartiest gratitude to Dr. Sreeram and informed him that the Memento & Citation will be sent to him by courier in due course. At the same time, he also offered the formal Vote of Thanks to the participants, members, industry and ILTA office, for successful completion

of the Webinar and their participation in large numbers.

There were about 80 - 90 participants in the event.

Video recording of the entire programme is available on the official YouTube Channel of ILTA (ILTA Online), Facebook Page of ILTA (Indian Leather Technologists’ Association) & Website of the Association – [www.iltaonline.org](http://www.iltaonline.org).

## FELICITATION PROGRAM JOINTLY CONDUCTED BY ILTA (SR) AND ALFA

Indian Leather Technologists Association-Southern Region (ILTA-SR) and AC Tech Leather and Footwear Alumni Association (ALFA) jointly conducted a felicitation function on the eve of superannuation of Dr. J Raghava Rao, Chief Scientist, CSIR-CLRI at 4 pm, on 30th August 2021 at COSTED Hall, CSIR-CLRI. Shri NR Jagannathan, President ALFA & ILTA-SR



welcomed the gathering and, in his address, he highlighted the unique qualities of Dr J Raghava Rao and felicitated him on his superannuation as well for receiving the AC Tech Distinguished Alumni Award for the year 2020. He also felicitated Shri Raja Seenivasan for receiving the AC Tech Distinguished Alumni Award for the year 2021. Dr T Ramasami in his address reminisced the student days of Dr JR Rao. He also highlighted the contributions of Shri Raja Seenivasan both in industry front as well as for society. He then felicitated Dr Rao with an *Angavastram*. Shri NR Jagannathan presented a Memento to Dr JR Rao. Dr B Chandrasekaran, Former Director, CSIR-CLRI presented an *Angavastram* to Dr T Ramasami. Dr KJ Sreeram, Director, CSIR-CLRI presented an *Angavastram* to Shri Raja Seenivasan.



## 63<sup>RD</sup> ANNUAL GENERAL MEETING OF ILTA

The 63<sup>rd</sup> Annual General Meeting of ILTA will be organized on 30<sup>th</sup> September, 2021 at 03.00 PM IST (Registration from 02.30 pm IST) on Zoom Cloud app.

The Printed Annual Report & Audited Statement of Accounts for 2020-21, Notice of the 63<sup>rd</sup> AGM and Proceedings of the last i.e. 62<sup>nd</sup> AGM was posted for the members through Indian Post on 6<sup>th</sup> / 7<sup>th</sup> September' 2021 and also sent the soft copy of the same via email on 8<sup>th</sup> September, 2021 respectively.

The Meeting Link, Id & Passcode for joining the meeting has been sent via a letter and also through email.



## LEXPO IN KOLKATA AND SILIGURI

- ❖ The Kolkata LEXPO – XXXXI which was proposed to be organized at Kolkata Ice Skating Rink from 18<sup>th</sup> to 26<sup>th</sup> September' 2021, has been postponed and likely to be rescheduled due to pandemic COVID-19 situation, as the decision has been taken in the 541<sup>st</sup> meeting of the Executive Committee held on 8<sup>th</sup> July' 2021. This was reviewed in the 544<sup>th</sup> E. C. Meeting held on 20<sup>th</sup> August, 2021 where it was proposed that a convenient schedule between January to March, 2022 would be asked for organizing the event from KISR authority.

- ❖ The Siliguri LEXPO – XXVI has been proposed to be organized at Kanchanjunga Krirangan adjacent Ground, Siliguri from 26<sup>th</sup> December'2021 to 10<sup>th</sup> January' 2022. Provisional allotment of the ground has been obtained. In view of the Pandemic situation further decision will be taken accordingly. We have proposed to Indian Leather Products Association (ILPA), if any of their Members is interested to participate in the event, may contact ILTA Office at the earliest.

However, latest progress and status report regarding organizing both the proposed fairs will be informed in due course.



(**Susanta Mallick**)  
General Secretary

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### RECEIVING HARD COPY OF JILTA EVERY MONTH

Members want to have the hard copy of JILTA every month or any particular issue, kindly inform us by email or post, whichever is convenient.

In case we do not receive any communication from you for a hard copy, we will continue sending e-copy of the same to your email id available with us. You may please verify your email id with our office at the earliest.

### PUBLISH YOUR TECHNICAL ARTICLE

Faculties, Research Scholars and students of various Leather Institutes may wish to publish their Research / Project papers in an Article form in this monthly technical journal, JILTA.

Interested author may sent their paper (in MS Word format) along with a PP Photograph and Contact details like Email, Mobile etc. to our email IDs : admin@iltaonleather.org / jiltaeditor@gmail.com

### YOUTUBE CHANNEL & FACEBOOK PAGE OF ILTA

An official **YouTube Channel** of our Association (**ILTA Online**) has been launched since November' 2020.

Also a **FaceBook Page** of our Association (**Indian Leather Technologists' Association**) has been launched since July'2021.

You may find all the Lives / Video recordings of different Seminar & Symposiums on both of these social medias along with our website **www.iltaonleather.org** time to time.

You are requested to kindly do **Like & Subscribe** the Youtube Channel and "**Follow**" the FaceBook Page to get regular updates on the activities of our Association.

—

**General Secretary and the Members of the Executive Committee are available to interact with members at 19.30 hrs, over Phone / Conference call on every Thursday**

# Dr. J. Raghava Rao

Principal Scientist, CSIR – Central Leather Research Institute, Chennai  
and Head, Dept. of Leather Technology, Anna University, Chennai &  
Professor, AcSIR



## Start to End with Chromium : A Three Decade Journey in Leather Science & Technology

### Personal :

- Born on 30 August 1961 in a Farmers family in Nellore, AP
- Beloved parents -Late Sri J Subba Naidu and Late Smt J Leelavathi
- Wife- Dr KV Rajeswari (Medical doctor); Son- Mr JV Sai Bharat (Marketing Engineer) and Daughter- J Sravani (Studying medicine)

### Education :

- B.Tech 1980-1984; M.Tech 1985-1987 Leather technology from Anna University
- Ph.D 1991 “Studies on the Approaches to the Better Management of Chromium(III) Salts as Tanning Agents” with CSIR Fellowship under the Mentorship of Dr T Ramasami

### Career :

- RA in Chemical Laboratory 1991-1993
- Joined as Senior Scientist on 25 June 1993 and presently Chief Scientist
- Presently HOD, IPCL since 2013 and HOD Leather Technology, Anna University since 2016

### Research Areas of Interest :



## Significant Contributions: Leather Science & Technology

- Speciation study of chromium complexes leading to high exhaust products
- Changing the Do-undo process logics in leather processing to Do-only process
- Paradigm shift from chemical to bioprocessing of leather
- Preservation cum unhairing agent as an alternative to salt and sulfide
- First to understand the role of ionic liquids on the stabilization of collagen
- Game changing Waterless Chrome Tanning technology licensed to 85 tanneries and the technology dedicated to Nation by the President of India
- Chrome melamine synthetic tanning agent free of formaldehyde – Licensed to an Indian chemical company
- Developed global Best Available Technologies (BAT) leading to reduction in Water consumption, TDS, S<sup>2-</sup> and Cr loads by more than 80%
- Large publication in global leather research of 130 papers in leather journals
- First scientist from India in the Editorial board of JALCA in 100 years

## Significant Contributions: Leather Education

- Created State-of-Art Academic & Research Excellence on par with global standards
- Catalyzed education and career development of about 1000 students at different level
- Initiated “FLYERS” Club for the students to be trained to be young entrepreneurs
- Led a leather science group of young colleagues to excel in respective research work, leading to several Young Scientist Awardees
- Created research ambience in leather science at LIDI, Ethiopia leading to five researchers with First publication in a leather journal
- Prepared Technology Vision document for Leather Sector 2035 for the “*Material and Manufacturing Technologies Sector*”, TIFAC, GoI
- Coordinated in hosting international workshop for NAM countries on sustainability of leather sector and XXXIV IULTCS Congress at Chennai
- Mentoring of students at various levels: 21 PhD; 40 PG and 59 UG
- Nurtured leadership among students, who are now thought leaders in various capacities

## Scientific Impact

### Papers & Research Articles

- |                                  |   |          |
|----------------------------------|---|----------|
| ➤ Publications in SCI Journals   | : | 303      |
| ➤ H-index; Citation index        | : | 37; 5731 |
| ➤ Book Chapters                  | : | 8        |
| ➤ Patents Filed/Granted in India | : | 36/19    |
| ➤ Patents Filed/Granted abroad   | : | 21/10    |
| ➤ External funded Projects       | : | 27       |
| ➤ Technology Transfer            | : | 19       |
| ➤ Licenses                       | : | 90       |
| ➤ ECF in Crores                  | : | 29       |
| ➤ International collaboration    | : | 07       |
| ➤ Invited Lectures               | : | 50       |
| ➤ Research Students              | : | 21       |



## Honours and Awards

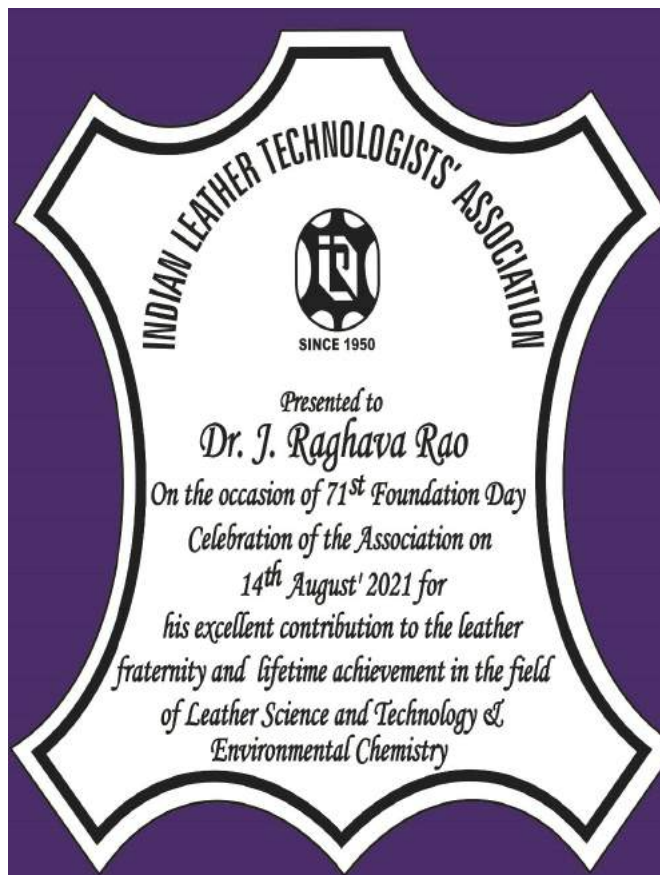
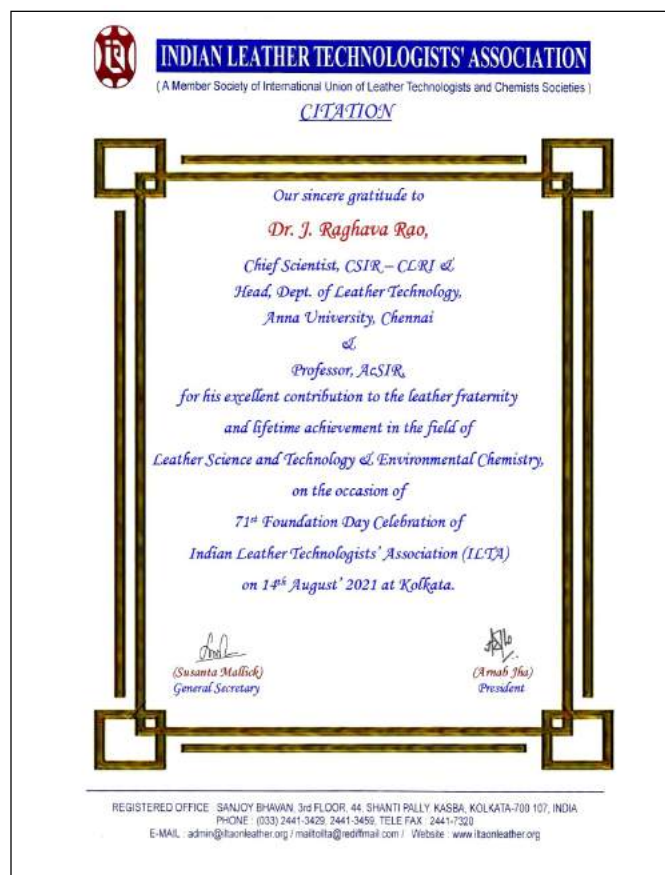
- FNAE; FRSC (UK) and FAPAS
- Burhani Foundation-NEERI Award
- Biotech Product Process Award
- 3 NRDC Awards
- Indira Gandhi Paryavaran Purashkar and WIPO award
- CSIR Diamond Jubilee & 2 CSIR Technology Awards
- Tamil Nadu Scientist Award
- Selection Committee Member in INAE, DST

## International Projects

- Benchmarking & Twinning in Ethiopia
- CSIR-DAAD- Germany
- TNO, Netherlands; CSIRO, Australia; LSRI Vietnam

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**Indian Leather Technologists' Association feels proud to reciprocate his great contribution to the whole Leather Fraternity and felicitated him during the 71<sup>st</sup> Foundation Day Celebration of ILTA on 14<sup>th</sup> August' 2021**





# Dr. Buddhadeb Chattopadhyay

Former Principal, Government College of Engineering & Leather Technology, Kolkata & subsequently  
MCKV Institute of Engineering, Liluah, Howrah



**Maresh Sri Ramkrishna Ashram (1961-1972) Higher Secondary**



**Government College of Engineering and Leather Technology (1972-1976) B. Sc (Tech) in Leather Technology**







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## Felicitation Corner

### Central Leather Research Institute, Chennai (1986-1988) M. Tech in Leather Technology



### Jadavpur University (1998-2003) Ph.D. in Engineering



### AD Scientific Index 2021

AD Scientific Index 2021				Home	About Us	Methodology	University Ranking	Country Ranking	Top 100 Scientist	Highly Cited Researchers	Sample Institutional Report	Reject List	Contact			
1	1	1	1	AD Scientific Index - 2021								H INDEX			I10 INDEX	
University	Country	Region	World	Name	Country	University	Subject	Total	Last 5 year	Last 5 year / total	Total	Last 5 year				
3	11519	77919	411912	Buddhadeb Chattopadhyay	India	MCKV Institute Engineering	MCKV Engineering 243 GTRd Luluah Howrah 711204 India Leather Technology (Ecotoxicology) (Environmental Science)	14	12	0.857	24	14				
22	725	6273	49465	Karnan Chattopadhyay	India	Indian Institute of Science Bangalore	Electron Microscopy (Phase Transformations) Materials Science (Solidification)	47	31	0.660	226	129				
9	1163	9814	73164	Joydev Chattopadhyay	India	Indian Statistical Institute Kolkata	Agriculture & Forestry / Agriculture Biomathematics	40	29	0.725	137	109				
12	1230	23695	75863	Amitava Chattopadhyay	France	INSEAD Business School	INSEAD--GlaxoSmithKline Chaired Corporate Innovation Innovation Brand Strategy (Innovation) (Emerging Markets) (Customer Centricity) (Bottom of the Pyramid)	39	28	0.718	53	40				
1	1660	14082	99389	Dhrubajyoti Chattopadhyay	India	Sister Nivedita University	Sister Nivedita Kolkata Molecular Virology (Chandipura Virus) (Molecular Microbiology) (Microbial Ecology) (Enzymology)	35	21	0.600	77	44				
1	39561	45670	103021	Soma Chattopadhyay	USA	Elgin Community College	Natural Sciences / Physics Nano science (Materials Science) Condensed Matter Physics (EXAFS) (XANES)	34	25	0.735	66	44				
9	2596	21957	144484	Debasish Chattopadhyay	India	National Institute of Plant Genome Research	Agriculture & Forestry / Plant Science Plant Biology (Genomics)	28	22	0.786	45	37				



## Professional Career

- 1976-1978 IEC Ltd as Government of India Trainee.
- 1978-1985 Bata India Ltd as Deputy Superintendent Tanneries.
- 1985-2016 Government College of Engineering and Leather Technology in various capacities.
- Superannuated as the Principal on 31/01/2016.
- 2016-2017 Coordinator cum Academic Advisor of a World Bank Project.
- 2017-2020 Principal of MCKV Institute of Engineering.

## Google Scholar Citations

<https://scholar.google.com/citations?user=0tL4OHsAAAAJ>

## Mentors:



Prof. S. S. Dutta

Dr. Z. Kotasek

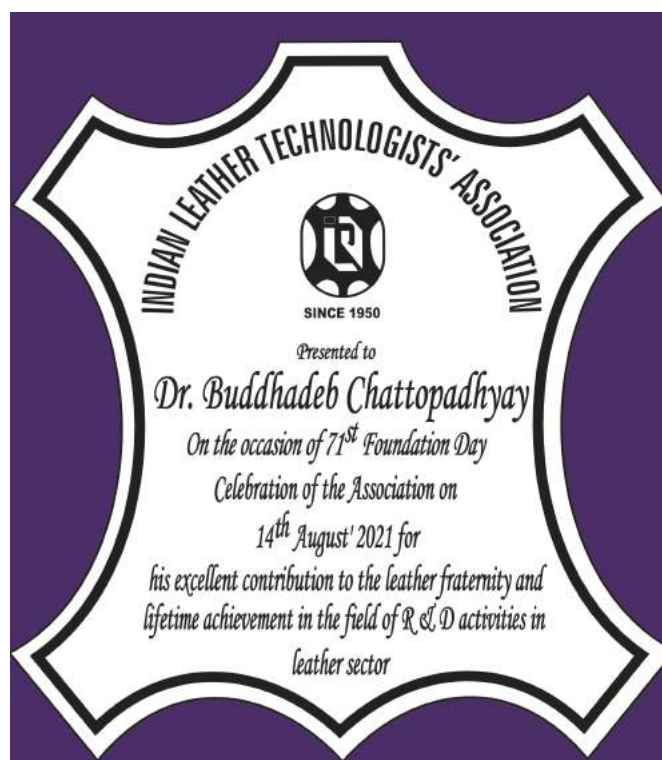
Dr. S. K. Mukherjee

Dr. T. Ramasami

Dr. D. Ramaswamy

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**Indian Leather Technologists' Association feels proud to reciprocate his great contribution to the whole Leather Fraternity and felicitated him during the 71<sup>st</sup> Foundation Day Celebration of ILTA on 14<sup>th</sup> August' 2021**





ILTA  
Since 1950

### Solidaridad

Solidaridad Network is a global civil society organization providing efficient, scalable and economically effective and innovative sustainability solutions in various agricultural and industrial commodities such as:





switchasia  
GRANTS PROGRAMME



## EFFECTIVE WASTE MANAGEMENT AND SUSTAINABLE DEVELOPMENT IN KOLKATA LEATHER CLUSTER(BANTALA) 2020 -2023

Circular Economy

Effective solid waste  
management

Capacity building  
programme



Trainings on Occupational  
Health and Safety

Robust public- private  
partnership

Efficient water  
consumption practices

EFFECTIVE WASTE MANAGEMENT  
AND SUSTAINABLE DEVELOPMENT  
**KOLKATA LEATHER CLUSTER**

### PROJECT PARTNERS IN ASIA



Pradipta Konar, Program Manager-Leather (Kolkata): [pradipta.konar@solidaridadnetwork.org](mailto:pradipta.konar@solidaridadnetwork.org)

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158/5, Prince Anwar Shah Road, Kolkata-700045

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# A CREATIVE DESIGN PROCESS MODEL - The Creative Visualization for Footwear Design & Development

**Mr. Abdul Rahuman M**

M.Sc. (CRD), UGC NET (J 2018), Jr. Faculty & CD (FSFDP) Footwear Design & Development  
Institute, Hyderabad Under Ministry of Commerce & Industry, Govt. of India



Design is the creativity along with practicality, to find realism. A design process involves various steps to reduce the new collection failure rate. This paper is focuses on how the commercial or industrial designer working on a fashion collection that involves a series of idea, sketches, different themes, inspirations and various experiments with sole design, patterns, textures and colors.

This paper looks towards building on this idea by touching on topics such as Design IB, research direction, inspiration, market segmentation, creative process and so on. From the observation, idea creation of look, range building is demonstrated in this paper. From observation, the creation of the idea of the look, the construction of the range is demonstrated in this document. The objectives of this paper are to exhibit way of new collections and designs range to be realized.

**Key words :** Design IB, Research Inspiration, Research Direction, Creative process, etc.

## Introduction

Generally, Footwear is an integral part of human living, which protects the feet from extremes of temperature, moisture and mechanical trauma. Footwear is outer covering portion of feet. This supports body weight bearing, mobility of individual which protects the feet from injuries. Mostly, fashion adapted. Fashion has dominance comfort and narrow footwear is desired. Largely, Commercial footwear has no toe room which raises crowding, pressures, etc. In Commercial, length of the feet is considered in footwear making. No group of human being has same feet shape. No two foot has the same shape or function. But commercially, standard feet width is only considered for footwear manufacturing, which is principle limitation.

There are a different shoe styles available in the market which differs in style lines, heel heights, toe shapes, etc. The look of each design can be found one or more features that are intended to meet some special purpose or utility. Classic, Casual, Sporty, Customized are different types of shoes which is based on utility of shoe.

Footwear designing has complexity to create the design, and focuses on functionailty as well as aesthetics. There are various steps involved to create new product, the steps also vary slightly vary depending on the individual designer. The paper is intended to be used as an example to understand the design process.

For industrial designers, working on a collection involves a series of idea sketches/ flat, different themes and inspirations, and various experiments in color review, patterns, textures and etc. Designers surround themselves with photographs that address ideas, swatches, trend boards and anything else to improve the creativity. They leave their studios and visit zoos, theatres, retail shops and galleries in search of inspiration. They usually carry sketchbooks to draw the thoughts/ ideas when and where they discover them.

## Stages Involved in the Design Process :

The stages involved in the design process can vary designer to designer. The design process stage will help the designer to discover the realism and reduce the failure percentage of the design collection.

Awareness and perception are the keys to creativity and one must learn most of all to keep his/her eyes open, to develop their skills of observation, to absorb visual ideas and to translate inspirations into designs.

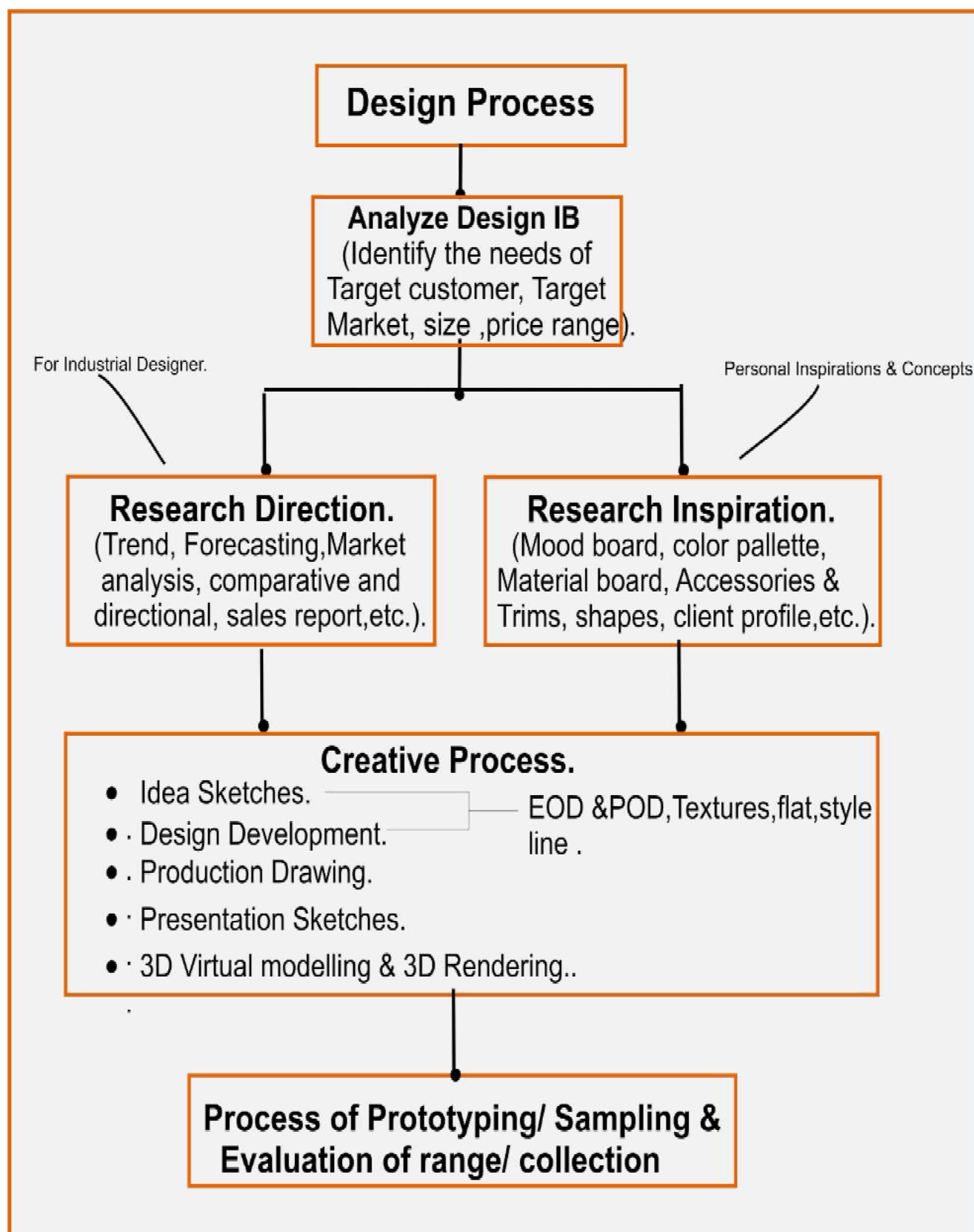


Figure 1 : Stages Involved in the Design Process.



## Stage 1 - Analyze the Design IB :

Design in Brief (Design IB) is the very first stage in the design process that ought to have a reasonable comprehension of who you are designing. Prior to beginning work, it is vital to see precisely what is needed for the customer or for a design project. The designer works one year in advance from the sale of the product.

Design briefs including complete information about the footwear/ product to be designed, and samples of leather to be used in the production process. If no leather / non-leather samples are attached, the designers are needed to obtain appropriate materials themselves. The information within a typical brief covers the following :

- The type(s) of footwear to be designed. For example, women's wear, menswear, kids wear and so on.
- The occasions or activities they are intended for. For example, office attire, permanance, casual, etc.
- The season.
- The fashion image required. For an example, different age range, formal or informal style, etc.
- The customer/ muse. A design brief requires you to design for a certain age, size, gender and followed by the customer profile, consider elements, such as work, life style, income and so on. The cost also plays a vital role for target customer.
- The price range & Target market. A design brief focuses on a specific market sector in the industry. Such as the high street or middle market and so on.
- Title/Theme.
- Deadline.

A designer who is already working in the industry, the customers could be organizations of various kinds whose design needs can change hugely.

Some footwear businesses may wish to have ideas, which will help sell their existing ranges, which requires nothing progressive in design except for that their strong thoughts are restored - others will need solid recent fads.

If the brief is given orally and the details are not given to the designer clearly enough or maybe excessively obscure, it is often because the client doesn't know what they really want. So you may need to ask the questions listed as follows :

- What "Look" or "Brand Image" is required?
- Which season is the brief aiming for?
- Which size & price range is the brief aiming for?
- Are there any magazines or labels that the clients need to refer to?
- For what types of outlets or markets are the final product to be designed?
- What limitations/footwear constructions does the company or manufacture have with regard to machinery and production methods?
- At what price is the final product expected to sell?
- What is the deadline?

Whenever you have composed a reasonable setting for the brief and adopted a plan or strategy to the process.

## Stage 2 - Research Direction :

From the commercial approach, the design should be enlightening and consider the current and forward-looking improvement of style. Subsequently, it is fundamental that the selected content is reasonable for that season. There are an assortment of sources that can help this data gathering measure for industrial designers.

### 2.1.1 Trends and Fashion Forecasting :

Trends are affected by the continual changes of global events, technology, economic, political, social, demographics factors as well as evolutions in lifestyle, media and retailing. They can provide essential design directions for industrial designers. The success of forecasters is based on identifying trends and developing these trends for individual markets at the right time.

This information is collected and recorded by international correspondents and industries, who provide up-to-date information from fashion capitals such as Paris, Milan, New York, London and Japan. Fashion shows are the traditional sources of trends.

Many industries use trend forecasting to predict relevant changes and plan product development. For instance, the impact of reusing, natural and ecological movement are popular approaches to the rapidly changing world.

For professional design teams, a lot of money is invested in fashion prediction information and services. They provide

written reports on customers' lifestyle and profiles, street style, colour forecast, and accessory direction etc. The design team inside an organization usually uses fashion forecasts, material and colour predictions for the up-coming seasons. There are two main seasons in a fashion selling year – Spring/Summer and Autumn/Winter. Some of the widely- referred trend forecasting agencies are :

- WGSN and Doneger (New York),
- Promostyl, Peclers,
- René Derhy,
- Nelly Rodi (Paris),
- Trendstop (London).

Fashion forecasting can be classified into two. One is short-term forecasting, the prediction made before 3 - 6 months from actual season that prediction utilized for fast fashion brand like H&M, Zara, Fashion Nova, and so on. On the other hand, the long term forecast is widely utilized by the mass market, and the prediction made before 12 to 24 months from actual season. Mostly, the industrial designer depends on the best fashion forecaster. But some of the larger companies such as Forever 21 have their own trend departments, where they follow the styles, materials, and colors for the upcoming seasons. This can also be called as vertical integration.

Women's wear companies are more sensitive to the caprices of fashion and may produce four to six lines per year. Men's wear companies present two to four lines per year, and children's wear firms typically present three to four seasonal collections.

## 2.1.2 Coverage of tradeshow / fairs :

Material predictions can be found in major fairs and trade shows, such as India International Leather Fair-Chennai, APLF Leather

& Material-Hong Kong, Shoes & Leather – Vietnam, India International Leather Fair (IILF)-Kolkata, International Exhibition of Leather & Footwear Industry-Tunisia, Indo Leather & Footwear Expo-Indonesia, International Leather Goods Fair, Germany, and so on.

## 2.1.3 Retail reports and directional :

Retail reports are conducted around the world. Production drawings of these can illuminate clients about what is happening elsewhere and how to adapt for their own market. The information included in these retail reports are colour, resource, designer, as well as detailed sketches of the updated product.

Even designer can get an idea from the retail store manager about sales, color review, target market and customer and so on.

## 2.1.4 Ready-to-wear fashion show :

Analysing the collections of the shows in Italy, New York and Tokyo, looking at the seasonal developments of designers who are currently the most influential.

## 2.1.5 Comparative analysis :

The designers are engaging to prepare a new design sometimes leave their design studio and go to a competitive brand store to see the collection arrive. Connect with them to comprehend the creativity of the serious brand.

## 2.1.6 Market research :

All industrial designers are highly sensitive to competition in the market. A majority of designers do research on footwear in retail shops in order to see and feel at first hand other designers' work.

<b>Demographic Segmentation :</b> Lifestyle : Social Beings, social esteem, and so on Personality : Logical, Fashion oriented, etc. Ideology : Conventional, Unconventional, Pop and so on. Attitude : Free will, Impatience, Stubborn, and so on.	<b>Demographic Segmentation :</b> Age : 16-20, 20-25, 25-35, 35-45 & so on. Gender : Male, Female, Unisex. Occupation : Student, Business, and so on. Socio economic status : Lower, Middle, upper Middle, Upper.
<b>Geographic Segmentation :</b> Country & Region.	<b>Behavioural Segmentation :</b> Occasion : Regular, Wedding and so on. Benefits : Formal, casual, performance, dancing and so on. User status and User rate : For instance, Regular & Medium.

**Table 1 Marget segmentation for product design.**



## 2.1.7 Fashion Internet and websites :

The internet is a tool for researching the latest fashions and trends - from fashion runways to the streets, from music to the art movement. Today, countless websites offer information on fashion. Almost all major brands, retailers and manufacturers have their own official website. Some of the prominent websites listed below.

<https://arsutoriamagazine.com>. A hands-on tool providing professional and insight from international runways, trade shows and retail scenes with in-depth analysis on emerging trends in design themes, colors, key silhouettes, graphics and more.

[www.doneger.com](http://www.doneger.com): Creative Services provides paid reporting and analytics for industry customers, covering merchandising and creative teams survey the market at all stages of the design, development and merchandising process.

[www.jiltaonleather.org](http://www.jiltaonleather.org): A monthly journal, research promotion and service for leather and allied product.

[leatheragemag.in](http://leatheragemag.in): India's leading magazine covering news and events, promotion of leathers and related products.

[www.leathernaturally.org](http://www.leathernaturally.org): One of the leading magazines for promotions, research and material analysis.

[www.leatherluxury.it](http://www.leatherluxury.it) Fashion from Italy plus a lot more such as leather, beauty, leather calendar, finish etc.

[www.fashionguide.com](http://www.fashionguide.com): News and gossip from the entertainment world and reports from some of the leading names in fashion journalism.

[www.fashionplanet.com](http://www.fashionplanet.com): Virtual fashion windows of New York: Madison, 5th Avenues, etc, with weekly updates.

[www.fgi.org](http://www.fgi.org): The Fashion Group International's website that lists events and business information for members..

[www.firstview.com](http://www.firstview.com): First View is a fashion publication available on a fee basis with photos of latest fashion collections from New York, Paris, London and Milan.

[www.fuk.co.uk](http://www.fuk.co.uk) : A site with news of fashion, shows, art, shopping and what is worn on the streets of Great Britain.

[www.global-color.com](http://www.global-color.com): A forecasting company that provides information and inspiration on colours and trends.

<https://www.pantone.com/>: color forecasting and continuous work on trend, forecast and analyzes..

[www.londonfashionweek.co.uk](http://www.londonfashionweek.co.uk): Great catwalk shows.

[www.modeaparis.com](http://www.modeaparis.com): Lists all members of the Federation Francais de La Couture in Paris. [www.promostyl.com](http://www.promostyl.com): International design agency researching trends, selling. Etc.

[www.thetrendreport.com](http://www.thetrendreport.com): A site on fashion runways, editorial and consumer buying.

[www.style.com](http://www.style.com): A site linked with Vogue and WWD; video and slide coverage of the latest designer fashion shows; celebrity style, trend reposts and fashion news.

[www.vogue.com](http://www.vogue.com): Vogue Magazine's website covers designer collections with celebrity and behind-the-scenes features.

[www.wgsn.com](http://www.wgsn.com): Worth Global Style Network, provides online fashion news, trade show calendars and reports, ready-to-wear and couture collections and trend forecasts to businesses on a subscription basis.

[www.wgsn-edu.com](http://www.wgsn-edu.com): Worth Global Style Network, free student version providing news and reviews on fashion development and trends around the world.

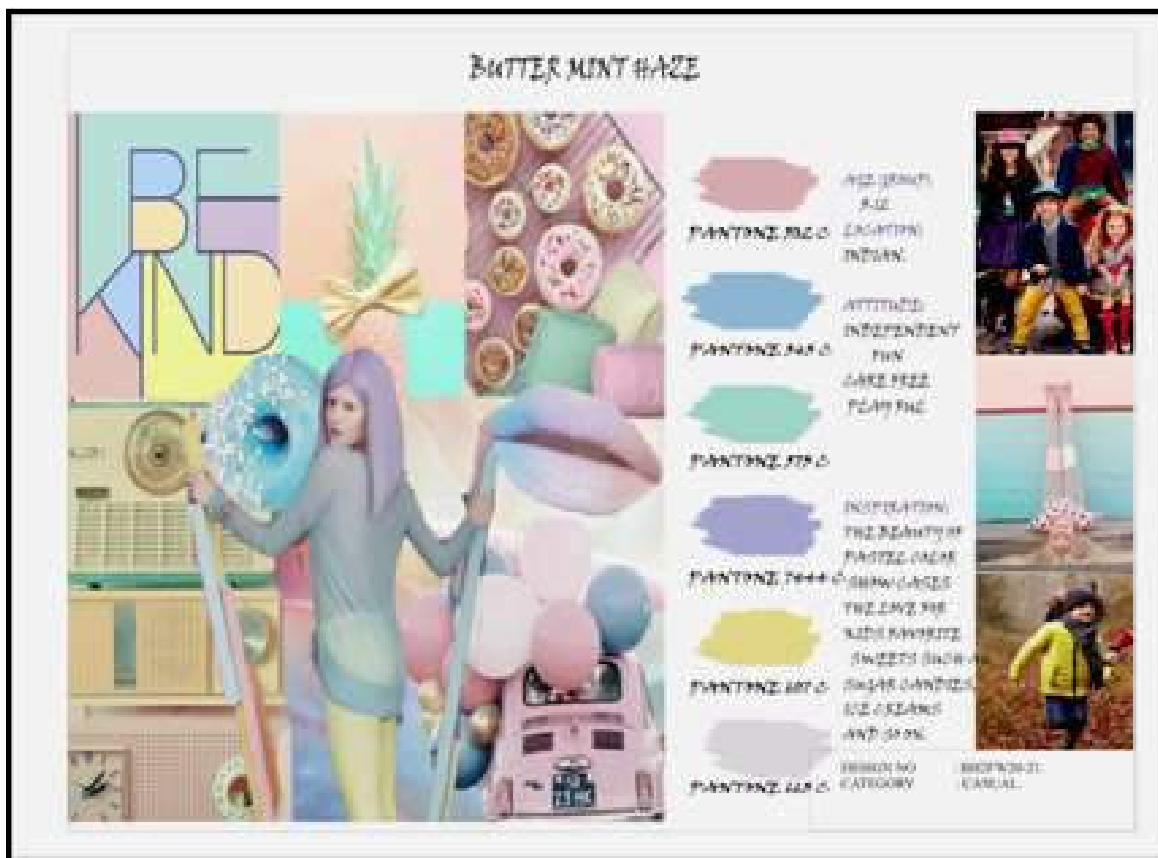
[www.wwd.com](http://www.wwd.com): The online version of women's wear daily, the daily fashion industry newspaper.

## Stage 3 - Research Inspiration :

People often wonder how designers manage to come up with countless innovative ideas. Actually, these ideas are once in a while rarely new - designers make by rethinking their general surroundings. As a general rule, dealing with another a new collection, designers need sources of inspiration to develop ideas. Inspiration can emerge out of anyplace and whenever, regardless of whether the source is a leaf tumbling from a tree

or a delightful nightfall. Good researches consequently impacts the improvement of piece of product ideas. These ideas can be completely unique or they can be affected by current trends.[2]

For industrial designers, they ought to consistently have a finger on the pulse of the time: fashion trend, street style, sub-culture, films, music direction, etc.



**Figure 2. A mood collage inspired from buttermint-haze**

### 3.1.1 Mood board

Mood board is a representation of our ideas or thoughts through a collection of various images, objects, trims, switches etc or anything that you feel can convey the vibe or mood of your expected final design. It acts a kind of visual communication tool which conveys our idea or concept of the design through collage of images, pictures etc. The composition of components in a mood board must be able to tell a story visually, since it is difficult to present our design concept or design direction in words. The compositions you create should represent the style of the design. Every component or element used in the mood board does not need to be related directly to the final design but should evoke a particular vibe, feeling, emotion or concept of the design. There are no certain rules and regulations to create a mood board. Anything can be included like photography, textures, illustrations, short descriptive words that review your general concept direction.

### 3.1.2 Color palette

Color palette is a set or choice of colors that are selected by the designer to create and convey the visual style of the final design. Color palette can contain different hues, values, tints and shades of different colors. These colors also act as a powerful visual communication tool that represents the voice and tone of the design. Choosing the right colors is the most important thing. The colors you select must complement each other well and must suit with your design style.

### 3.1.3 Material board

Material board is a collection or collage of different samples of materials, swatches or trims that are to be used in the design concept. A designer puts them all together on a single canvas after deciding on the materials for the design. These materials

when aligned and put together give us the visual style of the final product.

### 3.1.4 Client profile

After the market segmentation and customer research once the designer decides upon the target market, a client profile can be created. A client profile is a description or representation of characteristics of your client or ideal customer you are willing to target on. This helps you to understand better about the audience, who are going to use your design and can decide upon the final design accordingly. The client profile includes various details of client such as age, location, income, purchase habits, psychographic behaviours interests etc.

### Stage 4 - Creative Process :

In recent decades, graphic design tools have played a vital role in the creative process. Currently the creative process extends to 3D modeling. Mostly, designers are used to creating a new design that combines the traditional and graphic suite.

This helps the designer to portray his/her creative ideas through graphics mode which gives a bundle of options/tools to try on different ways to add detailing into the sketch. One of the ways is tracing out. When a proportionate sketch is made, and stitch marks, decorative punches and laces are added. So that it aids to easier visualization and production.

In creative process, Idea sketch is done manually. Then, Imported into Graphics suite. Later Designed sketches are checked whether the nodes are closed. If it does not close, color and textures will not be filled. Once traced or production sketches are ready, additional features can be applied to enhance the look of sketches and it becomes more understandable in terms of color combination, textures to be used. We can show the sketches to customer with different textures or colors of each design. During meeting or exhibition, we can change the color, texture, a modification of style lines which customer prefer instead of preparing proto. These operations can be performed instantaneously. Presentation sketch method reduces the time and costs when compared to the traditional method.



Figure 3 Different steps involved in creative process.

## Collection & Implementation :

The collection responses can be on a variety of levels ranging from direct and immediate to slow, subtle and subconscious. Regularly these reactions are produced through affiliations

including colors that help individuals to remember previous experiences. For instance, seeing a gathering of brilliant shadings can help creators to remember a coral gathering, these corals may have been found in the sea during a summer vocation.

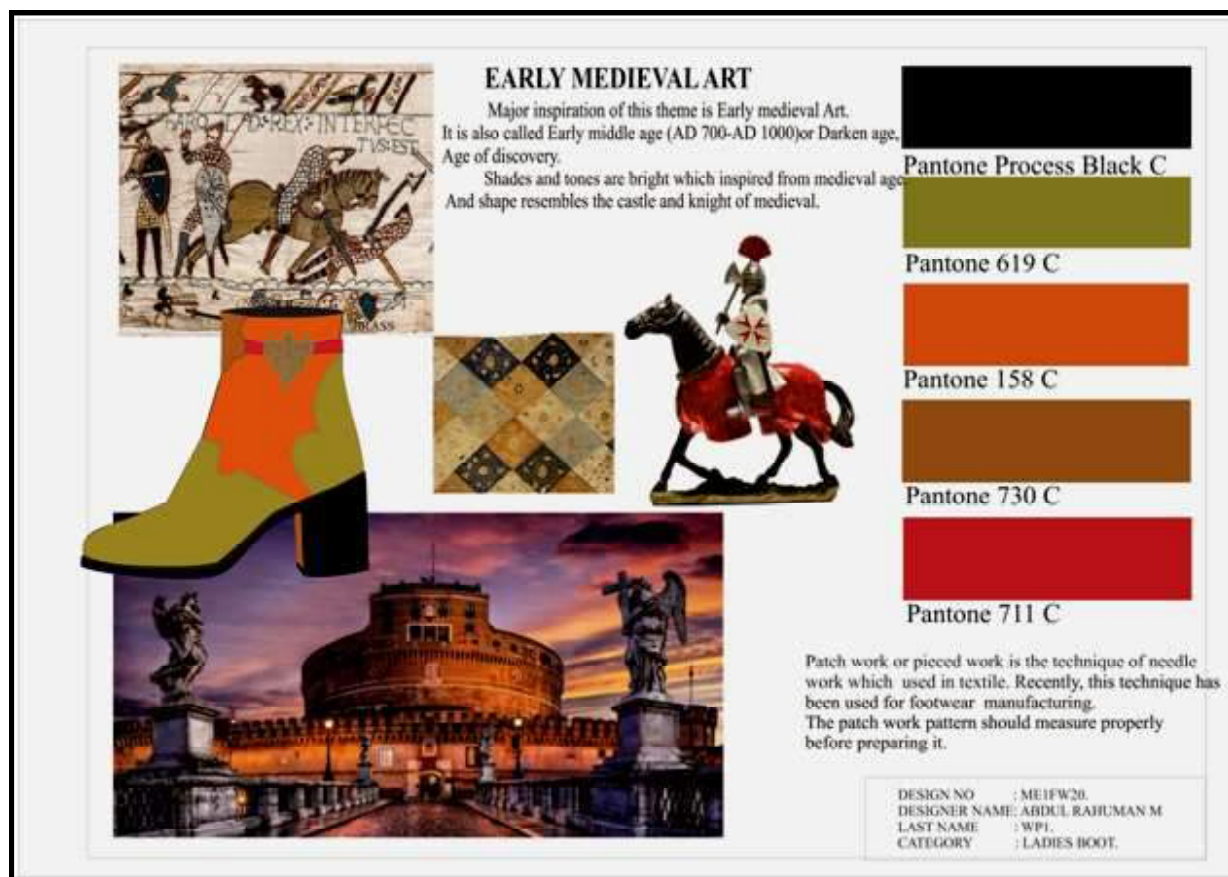


Figure 4. A mood collage & Flat inspired from early medieval art.

## Results and Discussion

It is also to be noticed that the discussed method would facilitate the look and visual features to be visualized.

This article puts forth three fundamental ideas. First, being to understand the parallel relationship between designer and different factors. Secondly, how design solution tools used to conceptualize footwear and related products, and thirdly how technologists' virtual model expresses an idea, resulting in sophisticated visual perception of collections.

Knowledge of designer in conceptualization plays important role for creating various looks. Also, the stages involved in the design process can vary designer to designer. These projects

are presented as examples of the new possibilities for Visualization in leather, footwear and allied industry.

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INTERNATIONAL UNION OF LEATHER  
TECHNOLOGISTS AND CHEMISTS SOCIETIES

## News Release from the IULTCS

### DR. T. RAMASAMI ANNOUNCED AS RECIPIENT OF THE IULTCS MERIT AWARD 2021



It is with great pleasure that IULTCS announces Dr Thirumalachari Ramasami has been chosen as the winner of the prestigious IULTCS Merit Award for Excellence in the Leather Industry. The IULTCS was founded for the purpose of encouraging the technology, chemistry and science of leather on a worldwide basis. It is therefore appropriate that we recognise the achievements of those of stature in our industry who have contributed significantly to our global understanding of the leather industry and its by-products. The IULTCS Merit Award is given biennially by the IULTCS Executive to an individual, whose past or current endeavours have had an extraordinary impact on our industry and provide an example for others to follow. Dr Ramasami fits this profile perfectly.

Dr T Ramasami is known for his significant contributions to the chemistry of chromium as a scientist and leadership to the Indian leather sector as a technologist and to science as a civil servant. Ramasami's investigations focussed on mechanistic chemistry, industrial applications of chromium salts and ecological solutions to industrial environmental problems. Some of his major research contributions include demonstration of anomalous reactivity of chromium(III), stabilisation of unusual

oxidation states of chromium, mechanistic insights into chromium induced apoptosis, understanding host guest interactions in biomolecular systems and development of technologies for improved tanning systems.

He developed a "Unified theory of tanning" by probing molecular level understanding of tanning systems. More than 12 technologies developed by his group are in commercial exploitation and several of them have been developed from first principles without international equivalents. He has guided more than 30 students for their doctoral research and authored more than 237 research publications, eight chapters in books, and numerous general articles. He holds more than 40 patents. In recognition of his contributions to leather research he was invited to deliver the John Arthur Wilson Memorial Lecture.

The Merit Award will be presented to Dr Ramasami once travel restrictions allow.

For further details kindly click on the link : <https://iultcs.org/dr-t-ramasami-announced-as-recipient-of-the-iultcs-merit-award-2021/>

*(IULTCS Website - 16.09.2021)*

### AFRICA'S LARGEST EVENT FOR THE WORLD'S LEATHER INDUSTRY



All-African Leather Fair (AALF) is Africa's biggest and most important international exhibition & conference dedicated to

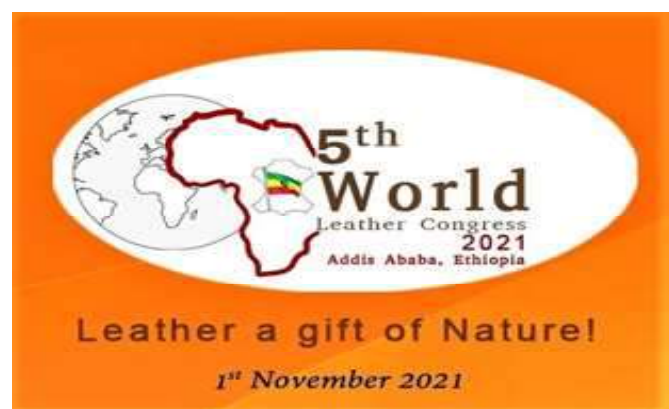
leather, accessories, components, synthetics and models for footwear, leather goods, automotive and furniture. Launched in 2008, it has become the most qualified international exhibition in Africa.

AALF has been characterised by its high leadership in quality and style innovation, which makes it indispensable to the leather demand worldwide.

For further details you may please visit the website : <https://aalf-online.com>

(Source : IULTCS Website)

## XXXVI IULTCS CONGRESS AND 5TH WORLD LEATHER CONGRESS BECOMING HYBRID EVENTS



Africa Leather and Leather Products Institute (ALLPI), in conjunction with the Government of Ethiopia, is excited to announce that the 36th International Union of Leather Technologists and Chemists Societies (IULTCS) Congress, and the 5th World Leather Congress (WLC) are becoming HYBRID events, to offer participants the choice of how they prefer to attend these important international congresses. Both events will be held in Addis Ababa, Ethiopia from 01- 05 November 2021.



With the backdrop of mounting COVID-19 pandemic-related restrictions, the hybrid mode will allow all those who are not able to attend in person, to be able to participate from the comfort of their own workplace or home, from anywhere in the world.

The video recordings from the congresses will also be made available on an online platform for 30 days, to ensure that all the conference registrants can access the presentation materials of speakers, researchers and sponsors without being constrained by time zones and/or internet connectivity problems at the time of the events.

The two Congresses (XXXVI IULTCS and 5th WLC) are expected to leave delegates with great insights and informative actions that delegates could use in their respective institutions and/or enterprises.

Registration for the congresses has commenced and a new registration fee structure for remote registrations is in place – with the ability to ‘upgrade’ to in person attendance if travel restrictions allow. Abstract submission is open until 31 August 2021 – with the option to submit to present a remote paper, allowing current global research to be shared, even if the presenter cannot be in attendance.

The link : <https://www.iultcs2021africa.org/home> will provide more information on registration and guidelines for submission of Abstracts.

There are also opportunities to support these high-profile, globally attended events by becoming sponsors, as it is critical to our industry that we continue to share our knowledge, research and best practice – various packages are available to suit all budgets.

### Summary Information:

5th World Leather Congress: 01 November 2021

XXXVI IULTCS Congress: 03 – 05 November 2021

Venue: Ethiopian Skylight Hotel, Addis Ababa, Ethiopia

Working Language: English

ALLPI Website: <https://www.allpi.int>

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(Source : IULTCS Website)

## 2021 YOUNG LEATHER SCIENTIST GRANT WINNERS ANNOUNCED FEB 2021

### Winners of Two 2021 IUR Research Grants Announced

The Executive Committee of the IULTCS is pleased to announce the winners of the 2021 IUR research grants to be awarded to two young scientists, under the age of 35. The monetary awards help support the work of young talent in the leather sector.

This is the seventh year of the grants which have been generously supported by industry and IULTCS alike. The Selection Committee of the IULTCS Research Commission (IUR), chaired by Dr Michael Meyer, is pleased to announce the following recipients:

### Young Leather Scientist Grant 2021 Basic Research



Hon Wei Ng, Research Assistant from New Zealand Leather and Shoe Research Association (LASRA), Palmerston North, New Zealand. IULTCS has provided the monetary sponsorship for a single sum of € 1,500 grant to Basic Research. The title of his project is : "Study on

### Molecular Level Collagen Structure Changes of Enzymatic Depilation Using X-Ray Scattering".

Hon Wei Ng's project's main objective is to evaluate the performance of a novel environmental isolate for enzymatic depilation of skin/hide for leather manufacturing. The study

also aims to use small-angle X-ray scattering to elucidate molecular level structural features changes of collagen caused enzymatic depilation compared to a conventional unhairing process.

### Professor Mike Redwood Young Leather Scientist Grant 2021 Sustainability / Environmental Award

Caroline Borges Agustini from the Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, Brazil, will be the beneficiary of the generosity of Leather Naturally who have sponsored the €1,000 grant for the project entitled : "Hydrocarbon Release During the Biodegradation of Solid Waste from Tanneries for BIOGAS Production".

The objective of this project is to investigate the evolution of the hydrocarbon release, the energy efficiency and the efficiency of the treatment of the waste of the anaerobic digestion of the solid waste of tanneries. The originality of this study is gaining the innovation of how chemical, physical and environmental parameters work



is an important step in improving the efficiency and process stability of anaerobic digesters to be able to adjust in which step of the batch process the continuous process must be designed and which pre-treatments are most suitable to increase the carbon depletion of the waste.

*Read and Let Read :-*

JILTA

# Black Hole Unveiled : By Dennis Overbye, April 10, 2019

**Dr. Buddhadeb Chattopadhyay**

Former Principal of the Government College of Engineering and Leather Technology Salt Lake, Kolkata and MCKV Institute of Engineering, Liluah Howrah.



Astronomers announced on Wednesday (April 10, 2019) that at last they had captured an image of the un-observable: a black hole, a cosmic abyss so deep and dense that not even light can escape it.

For years, and for all the mounting scientific evidence, black holes have remained marooned in the imaginations of artists and the algorithms of splashy computer models of the kind used in Christopher Nolan's outer-space epic "Interstellar." Now they are more real than ever. "We have seen what we thought not possible to see," said Shep Doeleman, an astronomer at the Harvard-Smithsonian Center for Astrophysics, and director of the effort to capture the image, during a Wednesday news conference in Washington, D.C.

The image, of a lopsided ring of light surrounding a dark circle deep in the heart of a galaxy known as Messier 87, some 55 million light-years away from Earth, resembled the Eye of Sauron, a reminder yet again of the implacable power of nature. It is a smoke ring framing a one-way portal to eternity.

The image offered a final, ringing affirmation of an idea so disturbing that even Einstein, from whose equations black holes emerged, was loath to accept it. If too much matter is crammed into one place, the cumulative force of gravity becomes overwhelming, and the place becomes an eternal trap. Here, according to Einstein's theory, matter, space and time come to an end and vanish like a dream.

On Wednesday morning that dark vision became a visceral reality. As far as the team of astronomers could ascertain, the shape of the shadow is circular, as Einstein's theory predicts.

The results were announced simultaneously at news conferences in Washington, D.C., and five other places around

the world, befitting an international collaboration involving 200 members, nine telescopes and six papers for the Astrophysical Journal Letters. When the image was put up on the screen in Washington, cheers and gasps, followed by applause, broke out in the room and throughout a universe of astro-fans following the live-streamed event.

Priyamvada Natarajan, an astrophysicist at Yale, said that Einstein must be delighted. "His theory has just been stress-tested under conditions of extreme gravity, and looks to have held up."

Kip Thorne, an astrophysicist at the California Institute of Technology, and who shared a Nobel Prize in 2017 for the discovery of gravitational waves from colliding black holes, wrote in an email: "It is wonderful to see the nearly circular shadow of the black hole. There can be no doubt this really is a black hole at the center of M87, with no signs of deviations from general relativity."

Janna Levin, a cosmologist and professor at Barnard College in New York, said, "What a time to be alive."

### A telescope the size of Earth

The image emerged from two years of computer analysis of observations from a network of radio antennas called the Event Horizon Telescope. In all, eight radio observatories on six mountains and four continents observed the galaxy in Virgo on and off for 10 days in April 2017.

The telescope array also monitored a dim source of radio noise called Sagittarius A\* (pronounced Sagittarius A-star), at the heart of our Milky Way galaxy. There, 26,000 light-years from Earth, and cloaked in interstellar dust and gas, lurks another black hole, with a mass of 4.1 million suns.





ILTA  
Since 1950

The network is named after the edge of a black hole, the point of no return; beyond the event horizon, not even light can escape the black hole's gravitational pull. The mystery of black holes has tantalized astronomers for more than half a century.

In the 1950s, astronomers with radio telescopes discovered that pearly, seemingly peaceful galaxies were spewing radio energy from their cores — far more energy than would be produced by the ordinary thermonuclear engines that make stars shine.

Perhaps, astrophysicists thought, the energy was being liberated by matter falling onto super-massive, dense objects — later called black holes. Since then, scientists have devised detailed models of how this would work. As hot, dense gas swirls around the black hole, like water headed down a drain, the intense pressures and magnetic fields cause energy to squirt out the side. As a paradoxical result, super-massive black holes can be the most luminous objects in the universe.

The images released today bolster the notion of violence perpetrated over cosmic scales, said Sera Markoff, an astrophysicist at the University of Amsterdam, and a member of the Event Horizon team. “Black holes must be the most exotic major disrupters of cosmic order,” she said.

### Einstein's least favorite idea

The unveiling today took place almost exactly a century after images of stars askew in the heavens made Einstein famous and confirmed his theory of general relativity as the law of the cosmos. That theory ascribes gravity to the warping of space and time by matter and energy, much as a mattress sags under a sleeper.

General relativity led to a new conception of the cosmos, in which space-time could quiver, bend, rip, expand, swirl like a mix-master and even disappear forever into the maw of a black hole.

To Einstein's surprise, the equations indicated that when too much matter or energy was concentrated in one place, space-time could collapse, trapping matter and light in perpetuity. He disliked that idea, but the consensus today is

that the universe is speckled with black holes furiously consuming everything around them.

Many are the gravitational tombstones of stars that burned up their fuel and collapsed. But others, hidden in the center of nearly every galaxy, are millions or billions of times more massive than the sun.

Nobody knows how such behemoths of nothingness could have been assembled. Dense wrinkles in the primordial energies of the Big Bang? Monster runaway stars that collapsed and swallowed up their surroundings in the dawning years of the universe?

Nor do scientists know what ultimately happens to whatever falls into a black hole, nor what forces reign at the center, where, theoretically, the density approaches infinity and smoke pours from nature's computer.

### Zeroing in on cosmic monsters

Any lingering doubts about the reality of black holes dissolved three years ago when the Laser Interferometer Gravitational-Wave Observatory, or LIGO, detected the collision of a pair of distant black holes, which sent a shiver through the fabric of space-time.

Now the reality has a face. Peter Galison, a physicist, filmmaker and historian at Harvard, and a member of the Event Horizon team, noted that there is “a wonderful open-ended sense of being able to see something” instead of merely accumulating statistical evidence.

Still, questions about gravity and the universe abound. “We know there must be something more,” Avery Broderick, a physicist at the University of Waterloo, in Ontario, told the audience in Washington, D.C. “Black holes are one of the places to look for answers.”

Proving that the monsters in Virgo and the center of the Milky Way were really black holes required measuring the sizes of their shadows. That was no easy job. Both look exceedingly

small from this distance, and resolving their tiny details would be a challenge for even the biggest individual telescope.

Moreover, the view is blurred by the charged particles such as electrons and protons that fill interstellar space. “It’s like looking through frosted glass,” said Dr. Doeleman, director of the Event Horizon Telescope.

To see into the shadows, astronomers needed to be able to tune their radio telescope to shorter wavelengths. And they needed a bigger telescope.

Enter the Event Horizon Telescope, the dream child of Dr. Doeleman. By combining data from radio telescopes as far apart as the South Pole, France, Chile and Hawaii, using a technique called very long baseline interferometry, Dr. Doeleman and his colleagues created a telescope as big as Earth itself, with the power to resolve details as small as an orange on the lunar surface.

In April 2017, the network of eight telescopes, including the South Pole Telescope, synchronized by atomic clocks, stared at the two targets off and on for 10 days. For two years, the Event Horizon team reduced and collated the results. The data were too voluminous to transmit over the internet, so they were placed on hard disks and flown back to M.I.T.’s Haystack Observatory, in Westford, Mass., and the Max Planck Institute for Radio Astronomy, in Bonn, Germany.

The data from the South Pole could not arrive before December 2017, Dr. Doeleman said in an interview, “Because it was Antarctic winter, when nothing could go in or out.” Last year the team divided into four groups to assemble images from the data dump. To stay objective and guard against bias, the teams had no contact with each other. They readied themselves for an inconclusive or ambiguous result — a blur, perhaps, that they couldn’t quite read. “It was a surprise how clear this image is.”

Dr. Doeleman grew optimistic last year at a dinner attended by some of the younger members of the team, who showed him

the first data for M87. “There were clear signatures of a ring like structure,” he said. After dinner, he went to his office and made some crude calculations. “That was one of those great moments,” he said. “It was a surprise how clear this image is.” As matter swirls into a black hole, it accretes into a disk just outside the abyss’s edge. The ring of light in the new image corresponds to the innermost orbit of photons, the quantum particles that make up light. By laying a ruler across that ring, astronomers could measure the size of the black hole and see that it met Einstein’s prescription.

The measurement also gave a firm estimate of the mass of the Virgo black hole: 6.5 billion solar masses. That is heavier than most previous determinations, and it suggests that the masses of other big black holes may need to be revised upward.

The observations also revealed that the accretion disk — the doughnut of doom — is on its side with regard to Earth, the hole facing us and spinning clockwise. The image is brighter where gas flows around the hole, toward us.

Dr. Doeleman described the black hole in the center of the Milky Way as “a fascinating, interesting object.” But it is much smaller than the Virgo black hole, so its portrait is harder to capture. That task lies ahead for the Event Horizon Telescope.

The telescope network continues to grow. In April 2018, a telescope in Greenland was added to the collaboration. Another observation run was made of the Milky Way and M87, and captured twice the amount of data gathered in 2017. That data was not part of the results released today, but will be used to confirm them and monitor the behavior of the black holes. Two more antennas are waiting to join the Event Horizon Telescope.

“The plan is to carry out these observations indefinitely and see how things change,” said Dr. Doeleman, embarking on his new career as a tamer of extragalactic beasts. “It’s astonishing to think humans can turn the Earth into a telescope and see a black hole,” and still more amazing to do it with this team, he said. “That’s the best.”

### INDIAN GOVERNMENT PLANS TO EXTEND LEATHER INCENTIVE SCHEME UNDER IFLADP



It is expected that the Union Cabinet will approve the scheme shortly, the official said.

The programme has six components — Sustainable Technology and Environmental Promotion (proposed outlay ₹500 crore); Integrated Development of Leather Sector (proposed outlay ₹500 crore); Establishment of Institutional Facilities (₹200 crore); Mega Leather Footwear and Accessories Cluster Development (₹300 crore); Brand Promotion of Indian Brands in Leather and Footwear Sector (₹100 crore); and Development of Design Studios (₹100 crore).

The expenditure finance committee, who report to the finance ministry, have already approved the commerce ministry's proposal, the official said.

Under the 'Sustainable Technology and Environmental Promotion' component, assistance could be provided for setting up a common effluent treatment plant; and support could be extended for modernisation/capacity expansion/ technology up-gradation under the 'Integrated Development of Leather Sector' component.

Similarly, under the 'Establishment of Institutional Facilities' component, support could be provided for the setting up of new infrastructure and up-gradation of requisite infra of the existing campuses of Footwear Design and Development Institute (FDDI).

Under the 'Mega Leather Footwear and Accessories Cluster Development' sub-scheme, graded assistance is proposed for land development, social infrastructure, production facilities, and R&D (research and development) support. For brand promotion, support could be provided to promote at least 10 Indian brands in the international market.

Further, under the component of 'Development of Design Studios', assistance could be given for developing 10 studios."The studios will promote design innovation, promote market and export linkages, facilitate buyer-seller meets, display designs to international buyers and work as interfaces for the trade fairs.

"These studios would provide services such as technical support, and quality control," the official added. Earlier, the IFLADP was announced with an expenditure of ₹2,600 crore for three financial years — 2017-18 to 2019-20. It was also aimed at the development of infrastructure and facilitate additional investments, increasing production and employment generation.

The Council for Leather Exports (CLE) has also suggested the ministry for further extension of the scheme as it helps in upgrading infrastructure, boosting domestic manufacturing and increasing the country's exports.

CLE Chairman Sanjay Leekha said the scheme was "extremely" beneficial for the sector."It helped the sector in registering healthy growth rates. If the government extends it, the leather industry would get a significant filip," he said.

*(Source : Leathermag.com – 07/09/2021)*

### SIDBI LAUNCHES VARIOUS MSME CLUSTER DEVELOPMENT FOCUSED INITIATIVES



You would think it was a simple question: What is genuine leather? But if you Google that query you will come up with a whole range of definitions – and a lot of them are completely wrong. The problem isn't simply a question of whether genuine means 'real' or 'synthetic', but that people confuse the term with ways of grading leather. Not to mention the confusion caused by people using the term 'leather' to include faux leathers

(it really is time for leather to have protected status in law). This article is an attempt to set the record straight once and for all.  
Report by One 4 Leather

### Genuine leather – definition

#### *The International Council of Tanners defines leather as:*

“The hide or skin of an animal with its original fibrous structure more or less intact, tanned to be imputrescible. The hair or wool may, or may not, have been removed. Leather is also made from a hide or skin which has been split into layers or segmented either before or after tanning. However, if the tanned hide or skin is disintegrated mechanically and/or chemically into fibrous particles, small pieces or powders and then, with or without the combination of a binding agent, is made into sheets or other forms, such sheets or forms are not leather. If the leather has a surface coating, this surface layer, however applied, must not be thicker than 0.15mm.”

#### *It also defines ‘coated leather’ and ‘bonded leather’:*

“Coated leather is leather where the surface coating applied to the leather does not exceed one third of the total thickness of the product but is in excess of 0.15mm.”

“Materials where the leather fibres have been disintegrated and then reconstituted are not leather, but can be called bonded leather fibre or leather fibre board, if the leather fibre makes up more than 50% of the material. If there is any other component apart from leather fibre, binding material and leather auxiliaries, then this should be declared as part of the description.”

#### **‘Genuine leather’ is not a ‘grade’. Genuine just means ‘real’.**

Some definitions found on the internet are completely incorrect. For instance, the term ‘genuine leather’ DOES NOT describe the ‘grain’ or the ‘quality’ of a leather. As we can see from the definition above, the term refers solely to the authenticity of the material in question. Mike Batson from North Star Leather has written extensively about the “myth” of “genuine” being taken as a grade of leather. His definition of ‘genuine leather’ could not be clearer: “Simply put, it just means ‘real’ – a distinguisher from ‘synthetic’.

Batson theorises that misinformation like this came about because in the past, ‘genuine leather’ was stamped on all kinds

of leather goods – including the highest quality ones. But many manufacturers found that as long as they used a base layer of cheap leather they could pass off products with a polyurethane top layer as ‘genuine leather’. Over time, people caught on to this sleight of hand and began to associate the ‘genuine leather’ tag as a sign that they were being taken for a ride.

In reality, ‘genuine’ just means ‘real’. In an article that debunks the genuine myth, Batson defines the term in a way we can all understand: “It’s very similar to using the word ‘wood’ when talking about furniture: the vast majority of ‘wood furniture’ you can buy today is particle board, but that doesn’t mean all ‘wood’ furniture is particle board or low quality. It can be applied to everything from cheap particle board, to plywood, to high-end exotics.”

### Types of leather: the definitive story

‘Top grain leather’ refers to one which includes the outermost layer of the hide – or the ‘grain’. It can come in a variety of thicknesses and may include the fibrous ‘corium’ layer of the hide which is made of collagen.

If the grain is left completely intact we refer to it as ‘full grain leather’. Good quality genuine leather belts are good examples. But if the surface of the top grain leather has been ‘finished’ in some way, for example, having blemishes sanded away, dyes added or embossing done, we call it ‘corrected grain leather’. One particular type of corrected grain leather is ‘nubuck’, which is created by buffing the grain to reveal the hide’s fibres, which give a velvety ‘nap’ to the leather.

During the tanning process, most hides are ‘split’ which means the top grain layer is removed leaving a bottom layer which can be used to make ‘split’ or ‘suede leather’. This stage also determines the thickness of the grain layer. Different applications – such as shoes or seat covers – require different thicknesses of leather.

### Automotive leather

Leather remains a popular choice for vehicle interiors given its visual and tactile appeal as well as its durability. According to The Leather Dictionary, the first car seat covers used vegetable tanned leather “without surface colouration but made water repellent with oils and fats – just like saddles”. You can find out how automotive leather is made today in this handy infographic.



In the past, aniline leather was used which is dyed to give a rich colour but lacks any protective coating so it can be very vulnerable to damage. According to Textile Value Chain, semi-aniline leather is used for higher end car leather and is “a trade-off between keeping the finish as natural as possible and lending it some versatility by giving a thin protective coating”, which means the end product feels very supple. Today, pigmented (coated/protected) leather is the most commonly used type in the automotive sector. This features a finish that goes over the leather to protect and pigment it. This can still result in ‘high quality’ leather if the finish is very thin.

*(Source : APLF.com – 09/09/2021)*

### GREENHOUSE GASES - SYNTHETICS GET A FREE PASS ON METHANE



Non-profit organisation Clean Air Task Force is using a special infrared camera to detect leaks of methane from gas and oil installations in Europe and, according to a recent report from Bloomberg, has so far found 70 leaks. It quoted geoanalytics firm Kayrros as saying there had been thousands of leaks from fossil fuel facilities around the world, some emitting as much as 5 tonnes of methane per hour.

Kayrros said there had been about a dozen of these major leaks in Europe in the last two years, but more than 2,000 globally. It also said that these leaks account for no more than 15% of total methane pollution from the fossil fuel industry, with the rest coming from smaller leaks.

Reacting to this, founder and chief executive of plant-based material developer Natural Fiber Welding, Dr Luke Haverhals, said leaks of methane from the petrochemical industry had been happening for decades.

Dr Haverhals is a long-time critic of the Sustainable Apparel Coalition (SAC) and its Higg Materials Sustainability Index for

the easy ride it appears to give to materials sourced from fossil fuels. Following the Bloomberg report, he pointed out that lifecycle assessment (LCA) for plastics and for fossil fuel-derived synthetic fibres take no account of “this massive emissions problem”.

He called on the SAC to start reflecting emissions data, “described in scientific reports coming from all over the world”, in the index. Methane emissions from these leaks are an unintended consequence of fossil fuel production. SAC places no share of the burden of these emissions further downstream on polyester, nylon, polyvinyl chloride, polyurethane or other synthetic fibres.

Likewise, methane emissions from cattle are an unintended consequence of livestock farming and the meat and dairy industries. However, more often than not, upstream greenhouse gas emissions do form part of the calculations further downstream of leather’s carbon footprint.

In 2020, leather industry bodies joined forces to ask the SAC to suspend the score it gives to leather in the Higg Materials Sustainability Index. One of their objections related to upstream greenhouse gas emissions. They complained that the SAC’s assessment of leather included methane emissions but did not take account “the short-lived and circular nature of methane emissions from cattle”.

They insisted that, as a consequence of the unfair Higg score, finished product manufacturers were “deselecting leather in favour of fossil fuel-derived, unsustainable synthetic products”.

A clear example of this has emerged in recent statements from footwear brand Veja. In its widely publicised calculations of the carbon footprint of its shoes, it attributed around 70% of the total to its raw materials. Almost all of this, 97% of the 70%, is down to leather, according to Veja. And it calculates that 70% of the carbon footprint it attributes to leather occurs upstream in the supply chain.

As a result of these calculations, Veja has taken the decision to reduce the number of styles in which it uses leather. Emphasising Dr Haverhals’ point, it does not include any similar calculation for synthetic fibres; those materials get a free pass on upstream methane emissions.

*(Source : APLF News – 10/09/2021)*

*This article was originally published in Vol.-10, No.-11, 12 Nov. & Dec' 1968 issue of JILTA.*

## "A STUDY OF THE SOLUBLE AND INSOLUBLE SALTS IN SOME VEGETABLE TANNING MATERIALS".

PART—X

N. N. Guha

(Continued from previous issue).

### Specific Cations in Tanning Materials :—

The importance of cations in vegetable tannage as suggested by some workers has already been stressed in part vi of the series. The methods of their determinations have been described in the earlier papers and in this paper will be given some of the results regarding the distribution of main cations in the raw materials, extracts as well as in the spent products. The main cations in vegetable tanning materials e. g. Ca, Mg, Na and K, were determined quantitatively and are reported — these cations will be included in all total salt figures. The analyses of the spent tanning materials have some interest in view of the general lack of information on this type of product. It may also explore new avenues for their better utilisations.

### TOTAL SPECIFIC CATIONS

TABLE—I

Ca and Mg in Original tanning material  
Mgm. equiv/100 gm. original material (Air dry).

Material	Ca plus Mg	Ca by EDTA method	Ca by Flame Photometer	Mg by difference	
	I	II	III	I—II	I—III
Mimosa	34 (34.0)	28(27.5)	27(26.5)	6.5	7.5
Sumac	79(79.0)	57(56.5)	56(55.6)	23(22.5)	23(23.4)
Chestnut	10(10.42)	9.5(9.5)	10(10.4)	0.92	0.02
Myrabolam	10(10.3)	5.3(5.3)	6.6(6.6)	5.0	3.7
Valonia.	22(21.5)	16(16.0)	17(17.2)	5.5	4.3

\*The figures outside the brackets are expressed to two significant figures.

TABLE—2

Na and K (Flame photometer) in original materials  
Mgm. equiv./100 gm. original materials (air dry)

Material	Na	K
Mimosa	2.8	5.8
Sumac	0.73	4.8*
Chestnut	0.82	1.0
Myrabolam	18.0	13
Valonia	1.0	18



**TABLE—3**

Material	Mgm. equiv./100 gm. Original material (Air dry)	
	Sum of Ca plus Mg, Na & K.	Total salts by BaCl <sub>2</sub> Sulphated ash method
Mimosa	43	39
Sumac	85*	100
Chestnut	12	13
Myrabolam	41	45
Valonia	41	41

The figures marked \*, seemed to be in error.

### Comments on tables—1-3 :-

The results given in these tables were obtained by direct analysis of the original tanning materials. For the EDTA results, 2-4 gms. and 8 gms. for chestnut were ashed in duplicate, sulphated as in the sulphated ash method, and after dissolving in water and filtering, the filtrate was made upto 250 ml. The filtrate was not treated to remove any soluble phosphate which it might contain.

The ashes were sulphated so that the results would be consistent with the determination of total salts where the sulphates were always used as starting materials for the analyses.

The accuracy and reproducibility of the magnesium figures will be lower than the calcium plus magnesium or calcium figures as they are based on difference figures.

For the flame photometer experiments, 2gms. (5 gms. for Chestnut) were ashed in duplicate, sulphated, phosphate removed and the final solution made upto 250 ml. The standards used were but sulphates of calcium, Sodium and Potassium.

For the determination of Ca only the sumac solution had to be diluted (2X) but for sodium and potassium, rather large dilutions (upto 10X) were sometimes necessary.

The agreement between duplicate solutions for Ca, K and apparent Na deflections was generally 2% on the maximum standard. Thus for Ca and K the duplicates agreed to 2-4% which was considered to be very good considering the pretreatment involved. The reproducibility of the Na figures is less easy to judge because of the rather involved correction procedure but is probably not far short of that obtained for the other two methods.

When the results for Ca by the EDTA and flame photometer methods are compared it can be seen from table I that the agreement is generally very good. The Mg figures obtained by difference are generally much smaller than the Ca figures (except for myrabolams) and therefore show a larger percentage difference



## SOLUBLE & INSOLUBLE SALTS OF VEGETABLE TANNING MATERIALS

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by the two methods. The discrepancies on the absolute figures however are not large, generally the agreement being to about 1 mgm. equiv. per 100 gm. original material,

It can be seen from tables I and 2 that there are considerable differences in the distribution of cations in the five materials. Ca is easily the predominant cation in mimosa, sumac and chestnut. These materials contain only small amounts of Na and K. Sumac contains a large amount of Mg and in this it differs from all the other materials.

Myrabolams and valonia are quite distinct from the other materials in that large amounts of alkali metals are present. They differ from each other, however; as myrabolams contain only a small amount of Ca but roughly equal amounts of Na and K whereas valonia has as much Ca as K but a much smaller content of Na.

### SPECIFIC CATIONS IN EXTRACTS

TABLE—4

Material	Ca and Mg in extract Mgm. equiv./100 gm. extract (Air dry)				
	Ca plus Mg	Ca by EDTA method	Ca by Flame Photometer	Mg by difference	
	I	II	III	I—II	I—III
Mimosa	24(24)	12(12.3)	13(13.3)	12(11.7)	11(10.7)
Sumac	79(78.7)*	30(30)	23(23)	49(48.7)	56(55.7)
Chestnut	20(19.8)	16(16)	14(14.2)	3.8(3.8)	5.6(5.6)
Myrabolam	12(12.4)	6.4(6.4)	6.9(6.9)	6.0(6.0)	5.5(5.5)
Valonia	34(33.5)	22(21.5)	20(20)	12(12)	14(13.5)

The figures outside the brackets are expressed to two significant figures.

TABLE—5

Material	Na & K (by flame photometer) in extract Mgm. equiv./100 gm. extract (Air dry)	
	Na	K
Mimosa	4.8	14
Sumac	2.9	9.7*
Chestnut	5.2	6.7
Myrabolam	28	18
Valonia	2.2	41

TABLE-6

Material	Mgm, equiv./100 gm. extract (Air dry)	
	Sum of Ca+Mg, Na & K	Total salts by resin shoke method on sulphated ash
Mimosa	43	41
Sumac	92	88
Chestnut	24	28
Myrabolam	58	62
Valonia	77	81

The figuers marked \*, seemed to be in error.

#### Comments on tables 4-6 :

The figures for the four main cations were obtained by similar procedures to those which were used on the original materials. Suitable amounts of the air dry extracts were ashed and when necessary the final solutions were diluted in order to obtain measurable titration figures by the EDTA method and suitable deflections in the flame photometer.

The figures in these tables are all expressed on 100 gms. of extract which gives the best picture of the composition of the extracts. The agreement between the EDTA figures and flame photometer results for Ca and Mg are again generally good except for sumac where one of the figures is probably in error.

The distribution of cations in the extracts is not the same as was found in the original material.

Myrabolams and valonia contain a high proportion of the alkali metals which distinguishes them from the other materials, but whereas potassium is easily the main cation in the latter, myrabolams contain rather more sodium.

Mimosa contains roughly equal quantities of Ca, Mg and K but Ca predominates in chestnut.

Sumac seems to be very unusual in its Mg content which is very large, and it also contains an appreciable amount of Ca.

#### SPECIFIC CATIONS IN SPENT MATERIALS

TABLE-7

Material	Ca and Mg in spent material				
	Mgm. equiv./100 gm. spent material (Air dry)				
	Ca plus Mg	Ca by EDTA method	Ca br Flame photometer	Mg by difference	
	I	II	III	I-II	I-III
Mimosa	44(43.5)	42(42)	37(37.3)	1.5	6.2
Sumac	85(85.3)	80(80)	77(76.7)	5.3	8.6
Chestnut	6.4(6.4)	6.0(6.0)	4.3(4.3)	0.4	2.1
Myrabolam	5.2(5.2)	4.2(4.2)	4.3(4.3)	1.0	0.9
Valonia	14(13.8)	13(12.7)	12(11.8)	1.1	2.0

The figures outside the brackets are expressed to two significant figures.



## SOLUBLE & INSOLUBLE SALTS OF VEGETABLE TANNING MATERIALS

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TABLE—8

Material	Mgm. equiv./100 gm (Air dry) spent material	
	Sum of Ca plus Mg	Total salts by Resin shake method on sulphated ash
Mimosa	44	40
Sumac	85*	108*
Chestnut	6.4	6.1
Myrabolam	5.2	5.8
Valonia	14	11

The figures marked \*, seemed to be in error.

### Comments on tables 7 & 8 :-

The air dry spent materials were ashed in duplicate and analysed for Ca and Mg as previously described. In general the EDTA figures for Ca agreed reasonably well with the alternative procedure and for sumac there was a smaller discrepancy than was found for the extracts. The discrepancies for Mg are rather large but again as the absolute figures are small, this was not considered to be very important.

The main cation in all the spent materials is Ca which is present in relatively large quantity in sumac and mimosa.

TABLE—9

Material	Mgm. equiv./100 gm. original material (Air dry)					
	Ca plus Mg by EDTA in extract + spent material	Ca plus Mg by EDTA in original material	Na by Flame photometer in extract	Na by Flame photometer in original material	K by Flame photometer in extract	K by Flame photometer in original material
Mimosa	33	34	2.3	2.8	6.5	5.7
Sumac	74	79	1.2	0.7	3.9	4.8
Chestnut	9.4	10	1.1	0.8	1.4	1.0
Myrabolam	10	10	1.9	1.8	1.2	1.3
Valonia	21	22	0.9	1.0	1.7	1.8

Here it is seen that the amounts of Ca plus Mg and Na plus K found in the original material are adequately accounted for by the sum of these metals found in the extract and spent materials. From this table it is obvious that almost all the Na and K is in soluble form in all materials.

( To be continued )

## **"A STUDY OF THE SOLUBLE AND INSOLUBLE SALTS IN SOME VEGETABLE TANNING MATERIALS".**

**PART—XI**

**N. N. Guha**

*(Continued from previous issue)*

### **General Discussion and Comments**

The main purpose of the present work was to establish reliable extraction and analytical procedures for the determination of soluble and insoluble cations and also systematically to collect the relevant information for five common tanning materials. This work has been arranged to allow extensive cross checking of both results and general accuracy and some limitation had to be imposed on the number of materials covered. It is thought however, that the conclusions reached here would enable similar studies to be made on other types of sample with confidence as far as analytical procedures are concerned.

The absolute accuracy of the  $\text{BaCl}_2$  and resin shake methods was studied by the addition of a synthetic mixture of salts to the ash of materials and the determination of the increased salt contents. These experiments show that both the methods are fairly accurate and the reproducibility was also found to be adequate. The method of testing the results would not show up the error due to Fe and Al as the latter materials were not included in the synthetic mixture.

The tendency of the present resin shake method to give low results may possibly be overcome by suitable modifications. A more thorough washing of the resin on the filter may be required.

A small scale soxhlet extraction as examined in the present work is quite exhaustive for the determination of soluble salts. But before starting with new materials, the time of extraction should be established first by trial.

The Procter method, if required for tannin analysis, could be used for soluble salts on most materials as the figures for the Procter extracts were almost equal to the small scale soxhlet extracts results. Only for woods like chestnut would appreciable errors occur by using the Procter method.

There was no difficulty in determining the salt content of the raw materials or spent products by either the newly developed resin shake method or the conventional  $\text{BaCl}_2$  procedure.

The method developed for the determination of ammonium salts seemed to be adequate and gave reproducible results. The pH of the suspension before commencing the distillation should be adjusted to 9.0 to neutralise the acidity of the materials. At this pH it would appear that decomposition of organically bound nitrogen is avoided.



The accuracy of the modern methods used here for the determination of the main individual cations was checked. The EDTA method for Ca Plus Mg and Ca alone, when tried with pure salts, gave good results. When the tanning materials Plus synthetic mixture were analysed, the results were a bit less satisfactory but to a reasonable extent. The flame photometer results for Ca gave similar errors on the same materials.

The official S. L. T. C. methods for the determination of Fe and Cu seemed to work satisfactorily. The colorimetric determination could be done more accurately with less personal error if a spectrophotometer or absorptiometer were used.

The colorimetric method used for aluminium was not satisfactory. In most cases, however, the amounts of aluminium present is too small to determine accurately gravimetrically and there seems to be a real need for an improved micro-technique.

There seems little doubt that the main errors (not of considerable nature) in most of the determinations discussed above are due for one reason or other to the dry ashing procedure. Certainly one would expect greater accuracy in the determination of metals by the EDTA and Flame photometer procedure when applied simply to a solution of salts. There is some difficulty in ensuring that all the salts in the original organic material are recovered quantitatively in the final solution.

Many of these errors, and certainly those due to the presence of silica, may be avoided by using a wet oxidation procedure. The  $\text{SiO}_2$  for instance can be more completely dehydrated by this method and at the same time difficulties due to partially volatile metals may be overcome. The final solution obtained by such a procedure could be analysed for Fe, Al, Cu, Ca, Mg, Na and K by methods similar to those used in the present study.

There is a strong case for the extension of the use of wet oxidation in the leather laboratory to replace existing dry ashing procedures. Only in the determination of chromium in leather has the method generally received the blessing of leather chemists. Quite apart from avoiding errors of the type previously mentioned, wet ashing is usually more rapid, less tedious and gives a better indication of its completion than dry ashing.

There is no complete agreement on the best methods of wet oxidation. In general, it seems that certain types of material require special treatment. The method used in the present study for determination of phosphorus seemed to work satisfactorily on quite a small scale and might well serve as a general method for the determination of metals as well as phosphorus in tanning materials.



It was found that the colorimetric procedure for phosphorus was very satisfactory. This method can be well recommended whenever a knowledge of the phosphorus content in tanning materials or related products is required.

The results for total salt in tanning materials appear to be the first which have been presented to allow comparison of the salt contents for the common tanning materials in the raw state. It is not surprising to find that sumac contains easily the largest quantity of total salts and chestnut easily the lowest. It is rather unexpected however, to discover that mimosa bark contains almost as much salts as myrabolams and valonia.

The salts of weak acids are seen to make up the great proportion of the total salts and from this point of view, the composition of the raw materials is similar to their extracts.

Some of the trends which were found in the raw materials also appear in the extracts. Mimosa extract, however, is found to contain appreciably lower amounts of total salts and salts of weak acids than myrabolams and valonia, which is in accordance with the usual classifications. Perhaps even more striking is the fact that certain sumac extracts contain only about the same quantity of soluble salts as myrabolams and valonia extracts. This last result is, however, much dependent on the method of extraction, as in large scale soxhlet experiments, the sumac extract was appreciably richer in salts and salts of weak acids.

Some interesting differences were observed in the distribution of the main cations in the raw materials and extracts. Mimosa, sumac and chestnut contain far more calcium and magnesium than sodium and Potassium in the raw materials. Myrabolam shows a much greater content of alkali metals than the alkaline earths in the raw materials where as valonia contains approximately equal quantities of both types of cation.

The general trend of these results is maintained in the extracts although the proportion of alkali metals is increased in each case, as would be expected from the great solubility of their salts.

Mimosa is rather exceptional in that the extract contains almost as great a quantity of alkali metals as calcium plus magnesium although the original material was much richer in the latter. Only sumac shows an appreciable quantity of magnesium in the raw material and this is perhaps related to the chlorophyll present in the leaves. However, the salts of magnesium seem to be more soluble than those of calcium and the extracts of both mimosa and valonia contain appreciable quantities of this metal.

Sodium is present only in traces in all the raw materials and extracts except myrabolams. In the latter case, more sodium was found in both raw material and



extract than potassium. Valonia extract contains a very large amount of potassium which is in agreement with the results of other workers.

Apart from the above cations, iron and aluminium salts were found in the raw materials and extracts. Sumac contained a relatively large proportion of iron in the raw material but the extract was similar to those of the other materials in containing only a small quantity of this metal. The ammonium salts were present in larger amounts in the extracts with values ranging from 3—9 mgm. equiv. per 100 gm. dry extract.

The analyses which were performed showed that calcium, magnesium, sodium, potassium, iron and aluminium could well account for the total mineral constituents present in the raw materials and only traces of other metals (including copper which was determined) are likely to be present.

The analyses of the spent tanning materials have some interest in view of the general lack of information on this type of product. Only in the sumac and mimosa spent materials are the salt contents relatively large. In the other materials, the quantity of salt present is not likely to be very important in considering possible uses for the materials.

As almost all the insoluble salts are salts of weak acids, it is feasible that some uses might be found for the sumac and mimosa spent products as mild neutralising agents. Sumac now seems to be in very short supply and is also expensive for many tanneries. This is rather unfortunate as apart from the valuable properties it imparts to leather, the spent material would seem to have interesting possibilities.

As tanning experiments were not conducted, it is not possible to say from the present study what proportion of the insoluble salts of sumac are taken up by leather during tannage. Reference has been made to Thiry's<sup>1</sup> investigation which showed that sumac tanned leather contained insoluble salts. It is probable, however, that the leaves remaining after tannage still retain rather large quantities of alkaline salts.

Mimosa is now the most widely used tanning material and extract manufacturers have to dispose of large quantities of the spent product. Generally, the material is used as a fuel supplement but a continuous search for other possible uses would seem be worthwhile.

The spent materials except for chestnut contained appreciable amounts of iron and phosphorus which might affect their properties considerably. Silica is also probably present in fairly large amount except in chestnut as judged by the amounts of acid insoluble residues which were obtained on ashing these products.

The salts in the spent materials are almost entirely those of calcium, only a small amount of magnesium being present. As phosphorus is also a constituent,



the products have at least potential value as fertilisers. Potassium is absent however and the calcium content is low even in the sumac and mimosa products compared with most fertilisers.

If the spent product of a tanning material was to be used as a fertiliser, it would probably be necessary to employ the ash rather than the actual spent material. This would consist mainly of calcium carbonate and phosphate. Some quick lime might be present if the temperature of ashing were high enough and this apparently is more valuable than calcium carbonate for addition to soil, according to the Imperial Institute<sup>2</sup>.

Thus it would be possible to turn the spent tanning materials in the extract factory or tannery and then to dispose of the ash as a fertiliser. Only mimosa and sumac of the materials studied here would give a fair yield of ash and even for these materials, the amounts involved might not warrant any particular attention. Another problem would probably arise due to the usual practice mixing the spent products with coal when burning them and therefore a mixed ash is usually obtained.

It is obvious therefore that the utilisation of these materials as fertilisers is extremely speculative. A more hopeful situation might arise in other fields however, in which the mineral constituents may or may not be important.

The question of substituting one tanning material for another has a general importance and some of these results obtained in the present study may be helpful in that respect. In trying to imitate the properties of any given material, it is valuable to have as much analytical information as possible.

One example may be cited in connection with sumac. Substitutes for this valuable material have often been put forward and a recent suggestion was made by Woodhead<sup>3</sup> in 1955 that mimosa could be used for this purpose. This worker used a scouring of sulphited mimosa and wood dust as a scouring and cleaning agent and claimed that it gave results even superior to sumac in some cases.

This type of mixture might serve as a sumac substitute for bleaching purposes. It obviously would not have the desired effect in producing a durable type of leather, for which sumac is renowned. The use of the wood dust is interesting however. It seems reasonable to suppose that one factor responsible for the properties of sumac is the large quantity of insoluble and relatively inert material which is present during the tannage, when sumac leaves are used. This probably has a filling action on the leather in sumac tannage and also is likely to increase the scouring action of the liquor when used as bleaching agent.

Any good substitute for sumac however would probably have to contain, in addition to wood dust or similar inert material, a relatively large quantity



of soluble and insoluble alkaline salts. The high content of soluble magnesium salts in sumac might also be important.

Cachia, Innes and Milton<sup>4</sup> have studied the effects of incorporating calcium pyrophosphate and calcium oxalate (which are insoluble or only sparingly soluble in water) into vegetable tanned leather. An increase in durability was found as judged by physical tests after exposure in a gas chamber. Certain difficulties were experienced however with the pyrophosphate, which was generally superior to the oxalate in its protective action, as it was not evenly distributed through the leather.

The protective action of the pyrophosphate is not due to buffering action but to the sequestering of ionic iron which plays an important part in the deterioration of vegetable tanned leather. The above authors suggested that better protection would be obtained by the incorporation of two salts, the first to inhibit the catalytic action of iron and the second to neutralise strong acid from the atmosphere.

Presumably certain constituents of sumac are able to accomplish both of these functions. The buffering action is certainly due in part to the insoluble constituents, and possibly complexing compounds are present in this fraction also. The insoluble compounds are probably so well dispersed in sumac that difficulties due to poor penetration are not encountered.

Further study of the soluble and insoluble constituents of sumac should lead to alternative and improved ways of producing leather of good durability and other desirable properties.

(to be continued)

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## PHDCCI IDENTIFIES 75 POTENTIAL PRODUCTS INCLUDING LEATHER, FOOTWEAR, MARKETS TO TAKE EXPORTS TO \$750 BN BY 2027



Industry chamber PHDCCI on Sunday said it has identified as many as 75 potential products from nine sectors, including agriculture and minerals, and as many markets like the US and Europe, which can help take India's exports to USD 750 billion by 2027.

Sanjay Aggarwal, President, PHDCCI, said that the US, Canada, Germany, France, UK, Japan, UAE, China, Mexico, Australia, among others would be the major focused markets in the next 75 months to achieve the goods export target of USD 750 billion by 2027.

According to the report of the chamber, the 75 potential products include fish, meat, cotton, ores, mineral fuels, chemicals, rubber, textiles, footwear, iron and steel, boilers, electrical machinery, vehicles, aircrafts, furniture, mattresses, toys, and sports items. Currently, these 75 potential products contribute around USD 127 billion, which is around 46 per cent of the total exports from India, Aggarwal said.

"At the global level, these 75 products also have significant 21 per cent presence in the total global exports, whereas India's share of these 75 products currently is only 3.6 per cent," he added. The 75 markets include Russia, Bangladesh, Vietnam, Nepal, Brazil, Poland, Italy and Thailand.

He added that going ahead, policy reforms such as flexible labour laws, improved ease of doing business, and reduced cost of doing business, would go a long way to enhance and

## Economic Corner

increase the export growth trajectory and to achieve USD 750 billion goods export target by 2027.

*(Economic Times – 12/09/2021)*

## EXPORTS ROSE 45% IN AUGUST BUT TRADE DEFICIT WIDENS TO FOUR-MONTH HIGH DRIVEN BY A SHARP UPTICK



India's merchandise exports in August touched \$33.14 billion, 45.17% higher than a year ago and 27.5% over the pre-pandemic level of August 2019, but the trade deficit widened to a four-month high driven by a sharp uptick in gold imports, as per preliminary estimates released.

Merchandise imports during the month grew 51.47% year-on-year to \$47 billion, which is also 18% higher than August 2019. The trade deficit widened 69.15% year-on-year to touch \$13.87 billion but was just 0.07% higher than the pre-COVID level of 2019.

"With merchandise imports continuing to scale up, even as exports receded from their all-time high, the trade deficit came in higher than anticipated," said Aditi Nayar, chief economist at rating agency ICRA, expressing concerns about rising gold imports.

In August 2020, gold imports stood at \$3.7 billion, implying an 82.22% jump in imports of the yellow metal last month.

"Gold imports surged further to a five-month high of \$6.7 billion in August 2021 and were responsible for 88% of the rise in the merchandise trade deficit relative to July 2021. Unless a weaker agricultural outlook restrains demand, gold imports may well touch \$40 billion in 2021-22," Ms. Nayar warned.



### Surging higher

In August 2021, India's exports rose by 45% from the August 2020 figure and 27.5% from the August 2019 level. Imports too recorded similar increases

	Merchandise trade in August (in \$ billion)			% growth	
	August 2021	August 2020	August 2019	Aug. '21 over Aug. '20	Aug. '21 over Aug. '19
Exports	33.14	22.83	25.99	45.17	27.5
Imports	47.01	31.03	39.85	51.47	17.95

Net oil imports remained largely stable, benefiting from a moderation in crude oil prices, despite a rise in mobility in the country, she pointed out. In the first five months of 2021-22, India's merchandise exports have now touched \$163.67 billion, nearly 67% higher than the same period last year and 22.9% higher than 2019. The government has set a target of merchandise exports worth \$400 billion for the year.

Exporters said the steady recovery in global trade was helping their order books but sought urgent attention from the government on the runaway freight rates, rampant container shortages and other policy constraints, including the release of pending benefits under earlier export incentive schemes.

"The government needs to provide freight support to all exports till March 31, 2022, as freight rates have skyrocketed," said Dr. A. Sakthivel, president of the Federation of Indian Exporters' Organisations.

Apart from augmenting the flow of empty containers to Indian ports, he suggested that the government should establish a regulatory authority to seek justification of freight hikes and imposition of various charges by shipping lines.

Among the major commodity groups, excluding petroleum, and gems and jewellery, which entail marginal value addition, engineering goods recorded a healthy 58.8% rise to \$9.6 billion, while cotton yarn, fabrics and handloom products jumped 55.6% to about \$1.3 billion.

Electronics goods exports rose 31.5% from a year ago, to hit \$1.15 billion. The employment-intensive readymade garments sector, however, only recorded a 14% growth at \$1.23 billion in August.

(Source : The Hindu – 02/09/2021)

### INCOME TAX RETURNS FILING DEADLINE FOR INDIVIDUALS EXTENDED TO DECEMBER 31



Earlier, the deadline was extended to September 30, 2021. Usually, the last date is July 31. The government on September 9 extended the deadline till December 31 for filing of Income Tax returns by individuals for the financial year 2021 due to the pandemic and technical glitches in the Income Tax portal.

Earlier, the deadline was extended to September 30, 2021. Usually, the last date is July 31.

"On consideration of difficulties reported by the taxpayers and other stakeholders in filing of Income Tax Returns and various reports of audit for the Assessment Year 2021-22 under the Income-tax Act, 1961, Central Board of Direct Taxes (CBDT) has decided to further extend the due dates for filing of the returns and various reports of audit for the Assessment Year 2021-22," the Finance Ministry said. The CBDT has also extended the ITR filing deadline for companies till February 15, 2022 from November 30, 2021.

The due date for filing the tax audit report and transfer pricing certificate has been extended to January 15, 2022 and January 31, 2022, respectively, from the October 31 and November 30, respectively. For filing belated or revised return of income, the last date has been extended by another two months to March 31, 2022.

With regard to the resolution of glitches in the tax portal, the Finance Ministry on September 8 said it is continuously engaging with Infosys to ensure a smooth filing experience for taxpayers. On April 1, the CBDT notified the forms for filing IT returns for 2020-21 fiscal.

For the 2020-21 fiscal, the government had given taxpayers the option to choose a new tax regime under section 115BAC of the Income Tax Act.

(Source : The Hindu – 09/09/2021)

### RBI OPTIMISTIC ABOUT 9.5 PC GDP GROWTH ESTIMATE FOR FY22 BEING MET: SHAKTIKANTA DAS



The central bank will seek to gradually move towards achieving the 4 per cent target over a period of time, he said, adding that the possibility of a sustained increase in inflation is unlikely.

RBI Governor Shaktikanta Das on Thursday said many fast indicators are showing an uptick in economic activity and the Reserve Bank is quite optimistic about its 9.5 per cent GDP growth estimate for FY2021-22 at present. He said the impact of the second wave of COVID-19 has waned by August, and economic growth will be better from the second quarter onwards on a sequential basis.

Speaking at an event organised by The Indian Express and Financial Times, Das said the RBI has decided to give more emphasis on growth because of the pandemic and operate in the 2-6 per cent inflation band set by the government for it. The central bank will seek to gradually move towards achieving the 4 per cent target over a period of time, he said, adding that the possibility of a sustained increase in inflation is unlikely.

Easy liquidity conditions in the global markets are among the conditions which are leading to a surge in markets domestically, he said, making it clear that there is no evidence of the high asset prices affecting the inflation situation. A call on continuing with the accommodative stance or not will be taken by the rate-

setting panel of the RBI, he said, replying to a question and added that it does not see high inflation getting generalised. The banking system's gross non-performing assets ratio stood at 7.5 per cent as of the end of June quarter, and the same is manageable? as of now, Das said, underlining that lenders also have adequate capital buffers. To a question on high haircuts taken by banks in debt resolutions, he said there is scope for improvement in the functioning of IBC which can include legislative changes and also time taken for a case by the bankruptcy courts.

On cryptocurrencies, Das said the RBI has conveyed its "serious and major concerns" about cryptocurrencies to the government and now the government will have to decide on how to deal with the proliferation of such platforms. Das said that we need credible answers? on contribution of private cryptocurrencies to the Indian economy going forward.

(Financial Express – 07/09/2021)

### GOVT TO RELEASE RS 56,027 CR TO EXPORTERS INCL. LEATHER & FOOTWEAR FOR PENDING TAX REFUNDS



The government expected to release Rs 56,027 crore to exporters against pending tax refunds under different incentive schemes for outbound shipments. The amount will be disbursed to more than 45,000 exporters. Benefits will help sectors to maintain cash flows and meet export demand in international market, which is recovering fast this financial year, he said.

The Rs 56,027 crore, which is being released under various export promotion schemes, is over and above duty remission of Rs 12,454 crore for the Remission of Duties and Taxes on Export Products (RoDTEP) Scheme and Rs 6,946 crore for Rebate of State and Central Levies and Taxes (RoSCTL) Scheme already announced.



The amount will be disbursed this year only, Union Commerce Minister Piyush Goyal told reporters. Benefits will help sectors to maintain cash flows and meet export demand in international market, which is recovering fast this financial year, he said.

Further, the commerce and industry ministry said that the Government of India has decided to budget Rs 56,027 crore in 2021-22 itself in order to disburse all pending export incentives due to exporters. This amount includes claims relating to MEIS (Merchandise Export India Scheme), SEIS (Service Exports India Scheme), RoSL (Rebate of State Levies), RoSCTL, other scrip-based schemes relating to earlier policies and the remission support for RoDTEP and RoSCTL for exports made in the fourth quarter of 2020-21.

The amount of Rs 56,027 crore of arrears is for different export promotion and remission schemes: MEIS (Rs 33,010 crore), SEIS (Rs 10,002 crore), RoSCTL (Rs 5,286 cr), RoSL (Rs 330 crore), RoDTEP (Rs 2,568 crore), other legacy Schemes like Target Plus etc (Rs 4,831 crore), it said. "This decision to clear all pending export incentives within this financial year will lead to even more rapid export growth in coming months," he said.

Service sector exporters, including those in the travel, tourism and hospitality segments, will be able to claim SEIS benefits for FY2019-2020, for which Rs 2,061 crore has been provisioned. The SEIS for 2019-20 with certain revisions in service categories and rates is being notified. This support would have a multiplier effect and spur employment generation.

The apparel sector, which is a major labour-intensive sector, will get past arrears under ROSCTL and ROSL, and all stakeholders in the interconnected supply chains would be strengthened to meet the festive season demand in international markets. Export claims relating to earlier years will need to be filed by the exporters by December 31, 2021 beyond which they will become time barred.

The online IT portal will be enabled shortly to accept MEIS and other scrip based applications and would be integrated with a robust mechanism set up by Ministry of Finance to monitor provisioning and disbursement of the export incentives under a budgetary framework.

*(Source : Financial Express – 10/09/2021)*

### *Read and Let Read :-*

**-: JILTA :-**

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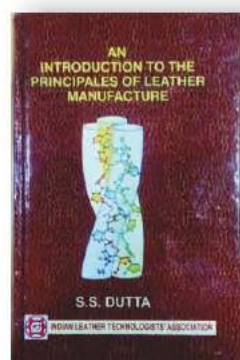
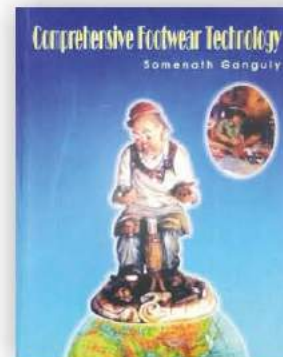
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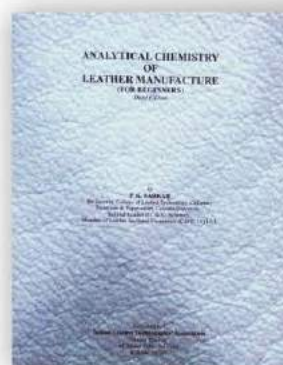
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# History and Activities of Indian Leather Technologists' Association

The Indian Leather Technologists' Association (ILTA) was founded by Late Prof. B. M. Das, the originator of Das-Silwaney theory and father of Indian Leather Science on 14<sup>th</sup> August 1950.

The primary objectives of the oldest Leather Technologists' Association which celebrated its Diamond Jubilee year in the 2010, are:

- ◆ To bring all concerned with the broad spectrum of the leather industry under one umbrella.
- ◆ To organize seminar, symposium, workshop in order to create information, knowledge and latest development for the benefit of all concerned. To offer a common platform for all to interact with each other in order to understand each other's problems and prospects.
- ◆ To publish monthly journal as a supplement to those above objectives. The monthly journal of ILTA is known as Journal of Indian Leather Technologists' Association and is the most widely circulated technical journal concerning leather technology.
- ◆ To publish text books for the benefit of students at various levels of study, for the researchers and industry.
- ◆ To have interface between urban and rural sector.
- ◆ To assist Planning Commission, various Government Institutions, Ministry and autonomous bodies to formulate appropriate policies acceptable and adoptable to the industry.
- ◆ To organize practical training and to provide skilled manpower and to motivate good students for study.
- ◆ To conduct activities related to the growth of the export of leather and leather goods from India.
- ◆ As the part of many social activities ILTA has donated Rs. 1 lac to Consul General of Nepal towards relief of earthquake affected of Nepal on 18<sup>th</sup> Sept, 2015.

## INTERNATIONAL & NATIONAL SEMINAR

- ◆ ILTA is the Member Society of International Union of Leather Technologists & Chemists Societies (IULTCS), a 115 years old organization and for the first time the IULTCS Congress was organized in January 1999 outside the developed countries in India jointly by ILTA and CLRI.
- ◆ 2017 IULTCS Congress is scheduled to be held in India again.
- ◆ 8<sup>th</sup> Asian International Conference on Leather Science & Technology (AICLST) was organized by ILTA in 2010 during its Diamond Jubilee Celebration year.

## SEMINAR & SYMPOSIUM

ILTA organizes Seminar & Symposiums on regular basis to share information, knowledge & latest development and interactions for the benefit of all concerned. Few are as under:

- ◆ Prof. B. M. Das Memorial Lecture every year during the Foundation Day Celebrations on 14<sup>th</sup> August every year.
- ◆ Sanjoy Sen Memorial Lecture on 14<sup>th</sup> January every year, the birthday of our late President for several decades.
- ◆ Prof. Moni Banerjee Memorial Lecture on 15<sup>th</sup> March every year, the birthday of this iconic personality.
- ◆ Seminar on the occasion of India International Leather Fair (IILF) at Chennai in February every year.

It has also organized:

- ◆ Prof. Y. Nayudumma Memorial Lecture.
- ◆ Series of Lectures during "Programme on Implementing Emerging & Sustainable Technologies (PIEST)".
- ◆ Seminars in occasion of India International Leather Fair, 2014 and 2015 at Chennai etc. Many reputed scientists, industrialists and educators have delivered these prestigious lectures. Foreign dignitaries during their visits to India have addressed the members of ILTA at various times.

## PUBLICATION

ILTA have published the following books:

- ◆ An Introduction to the Principles of Physical Testing of Leather by Prof. B. B. Dutta
- ◆ Practical Aspects of Manufacture of Upper Leather by J. M. Day
- ◆ An Introduction to the Principles of Leather Manufacture by Prof. S. S. Dutta
- ◆ Analytical Chemistry of Leather Manufacture by R. K. Sarkar
- ◆ Comprehensive Footwear Technology by Mr. Somnath Ganguly
- ◆ Treatise on Fatliquors and Fatliquoring of Leather by Dr. Samir Dasgupta
- ◆ Synthetic Tanning Agents by Dr. Samir Dasgupta
- ◆ Hand Book of Tanning by Prof. B. M. Das

ILTA has a good Library & Archive enriched with a few important Books, Periodicals, Journals etc.

## AWARDS OF EXCELLENCE

- ◆ ILTA awards Prof. B. M. Das Memorial, Sanjoy Sen Memorial, J. M. Day Memorial and Moni Banerjee Memorial Medals to the top rankers at the University / Technical Institute graduates and post graduate levels to encourage the brilliants to evolve with the Industry.
- ◆ J. Shrin Roy Memorial Award for the author of the best contribution for the entire year published in the monthly journal of the Indian Leather Technologists' Association (JILTA).

## LEXPOs

To promote and provide marketing facilities, to keep pace with the latest design and technology, to have better interaction with the domestic buyers, ILTA has been organizing LEXPO fairs at Kolkata from 1977, Siliguri from 1992 and Durgapur from 2010. To help the tiny, cottage and small-scale sectors industries in marketing, LEXPO fairs give the exposure for their products. Apart from Kolkata, Siliguri & Durgapur, ILTA has organized LEXPO at Bhubaneswar, Gangtok, Guwahati, Jamshedpur and Ranchi.

## MEMBERS

The Association's present (as on 31.03.2018) strength of members is more than 600 from all over India and abroad. Primarily the members are leather technologists passed out from Govt. College of Engineering & Leather Technology, Anna University, Chennai, Harcourt Butler Technological Institute, Kanpur, B. R. Ambedkar National Institute of Technology, Jalandhar and Scientists from Central Leather Research Institute.

## ESTABLISHMENTS

In order to strengthen its activities, ILTA have constructed its own six storied building at 44, Shanti Pally, Kasbe, Kolkata - 700 107 and have named it "Sanjoy Bhavan". This Association is managed by an Executive Committee duly elected by the members of the Association. It is absolutely a voluntary organization working for the betterment of the Leather industry. None of the Executive Committee members gets any remuneration for the services rendered but they get the satisfaction of being a part of this esteemed organization.



ILTA  
Since 1950

## Indian Leather Technologists' Association

[A Member Society of International Union of Leather Technologists' and Chemists Societies]

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