The 73 Foundation Day of CSIR-CLRI celebrations commenced with Dr. K. J. Sreeram, Director, CSIR-CLRI garlanding the portrait of late Dr. B. M. Das, Founder Director, CSIR-CLRI on 24 April 2020. Dr. B. M. Das Memorial Foundation Day lecture titled “Science & Technology Challenges in COVID-19” was delivered by Dr. S. P. Thyagarajan, Professor of Eminence & Dean (Research), Sri Ramachandra University.
Dear Doyens and Stakeholders of the Indian Leather Fraternity; Indian R&D Community, the OneCSIR-family, my Colleagues from CSIR-CLRI, Friends! It gives us great pleasure in sending you our May 2020 edition of The LEATHER POST.

The LEATHER POST touches yet another mark with this edition. The lockdown has taken us a step forward in making this magazine more internally produced. Starting from this issue, the magazine is internally designed and released as an e-version. CSIR-CLRI celebrated its Foundation day on 24 April 2020 and subsequently the National Technology Day on 11 May 2020. It has been a tradition in CSIR-CLRI that an industrialist who also has adopted CSIR-CLRI technology speaks on this occasion and we are continuing with it. There have been some internal landmarks. We established the BSL 2 facilities for testing COVID19 and we hope that this facility would be a small contribution of ours to the local community and then would progress to become a facility for the R&D community in the future.

The industry has been approaching us for SOPs on RESTART with safety and my colleagues have started working with them in providing customised solutions at low costs. We would also embark on providing training and re-training for industrial works through the digital mode and I welcome the industry for its suggestions. In these trying times, industry may have varying needs, we have setup a single point contact at clriinfo@clri.res.in for the industry people to email their needs and we will help you as fast as we can.

Remaining in a committed partnership with the academy and industry would remain our goal as we progress from 73 to 75 years

JAI HIND

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Pg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>73 CSIR-CLRI Foundation Day celebrations - A Report</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>MODEUROP Colour &amp; trend directions Autumn Winter 2021-22</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>National Technology Day Celebration 2020</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Webinar Presentation on “Women in Science”</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Applications of Industrial Engineering Concepts In Sample Development Process of Leather Products</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>Report on Design &amp; Development of E-Learning tutorials for MASK making by TEAM SPDC</td>
<td>16</td>
</tr>
<tr>
<td>7</td>
<td>COVID-19 testing facility at CSIR-CLRI Sponsored by Hewlett Packard</td>
<td>17</td>
</tr>
<tr>
<td>8</td>
<td>Testing capabilities of CATERS, CLRI for screening of Hazardous or Critical substances present in Footwear and Components as per IS 17011:2018</td>
<td>19</td>
</tr>
<tr>
<td>9</td>
<td>Institutional Activities</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>Human Resource and Entrepreneurship Development Change in Learning with COVID-19’s social distancing</td>
<td>21</td>
</tr>
<tr>
<td>11</td>
<td>Snippets</td>
<td>22</td>
</tr>
</tbody>
</table>
The 73rd CSIR-CLRI Foundation Day

24th April 2020

The 73 Foundation Day of CSIR-CLRI was celebrated on 24 April 2020. The celebrations commenced with Dr K J Sreeram, Director, CSIR-CLRI garlanding the portrait of late Dr. B M Das, founder Director, CSIR-CLRI. Staff of the Institute attended the function maintaining the social distance norms.

The foundation day message from Dr. Shekhar C. Mande Secretary, DSIR, Govt. of India & Director General, Council of Scientific and Industrial Research was webcasted. In his address, Dr Shekhar C Mande, DG, CSIR expressed his privilege to send the 73 Foundation Day message to the members of the CSIR-CLRI family, former Directors, Dr K J Sreeram, present Director and Prof. S P Thyagarajan, the speaker of the day. He recalled his visit to CSIR-CLRI during the last foundation day and his interaction with the staff of CSIR-CLRI.

He acknowledged that CSIR-CLRI has been an iconic institute for the entire country especially the spectrum activities that the lab has performed and promoted for the leather sector in the country. He appreciated that the foundation day lecture of Prof. S P Thyagarajan would provide an insight on coronavirus. Also, he highlighted the firm steps taken by CSIR towards mitigation of coronavirus COVID-19.

This was followed by the message from Dr. K J Sreeram, Director, CSIR-CLRI. In his address, he welcomed the fellow staff members of CSIR-CLRI, ever supporting industry partners, alumni and all those have been connected with the success of CSIR-Central Leather Research Institute for the 73 Foundation Day celebration of CSIR-CLRI. He shared the comments of the parliamentary committee of science and technology and earth sciences that CSIR-CLRI is one of those institutes that can facilitate science reach to the grass-root levels and the downtrodden.

He expressed that lockdown has paved the way for new modes of working from home, teaching, learning and connecting to people virtually. He highlighted the efforts of CSIR towards mitigation of COVID-19 and that the low-cost sanitisers and reusable masks are some of the contributions of CSIR-CLRI. He advocated that CSIR-CLRI is getting itself ready to be a part of the molecular surveillance diagnosis team of CSIR and has also initiated the setting up of Bio Safety Level (BSL)-2 at CLRI on war footing to ramp up the COVID-19 testing to support the containment of the pandemic in the state and the country.
He added that through the efforts of ONECSIR and the Corporate Social Response (CSR) funds of Hewlett Packard (HP), BSL-3 facility has been installed at CLRI to undertake COVID-19 testing. He cheerfully expressed that the Department of Biotechnology (DBT) has chosen CLRI to be the hub of testing activities at Chennai. Further, he dedicated this 73 foundation day to all those who worked tirelessly for the institute during one of the toughest times of mankind.

Dr B M Das Memorial Foundation Day lecture titled “Science & Technology Challenges in COVID-19” was then delivered by Dr S P Thyagarajan, Professor of Eminence & Dean (Research), Sri Ramachandra University and was webcasted. In his lecture, he first paid homage to the leaders who built up CSIR-CLRI since 1948. He enunciated COVID-19 - the pandemic and the challenges that are faced by the scientists and technologists. He explained the similarities of SARS-CoV, MERS CoV and the SARS-CoV-2 and the crown-like appearance of the COVID-19 when viewed by Electron Microscopy. The mode of transmission of the virus and the spectrum of illness had been highlighted in the lecture. He added that the scientists have explained the full genome structure. However, the pathogenesis mechanism is still contested amongst the global scientists and is a challenge posed for the Indian scientists, as the cases in India are mostly asymptotic. He supported that appropriate diagnostic kits for testing is still a challenge. He also elucidated the guidelines of ICMR for lab diagnosis of COVID-19 and suggested the hygienic precautionary measures to be followed to fight against the coronavirus. He felt the need for distant level thermal screening and remote screening and tracking with the support of artificial intelligence tools. He expressed that there is a need for the longitudinal study on the transmissibility of the virus through asymptotic coronavirus carriers. He highlighted that diagnostics, treatments and vaccines are still potential areas of research for scientists and technologists.
In the second half of the day, the 73 CSIR-Central Leather Research Institute (CSIR-CLRI) Foundation Day celebration was held in association with AC Tech Leather and Footwear Alumni Association (ALFA) and I Square Leder Webinar (ISLW) team on 24 April 2020 from 2.00 to 4.30 pm. ISLW team organised series of webinars to gain and share insights from various experts to face the “new-normal” in the leather industry post the COVID-19 lockdown. A total of 180 participants attended the webinar, which included staff of CSIR-CLRI and eminent members from the leather industry world-wide.

Dr. Swarna V Kanth, Senior Principal Scientist, CSIR-CLRI and Secretary, ALFA briefed about the CSIR-CLRI Foundation Day to the participants. She said that CSIR-CLRI and ALFA approached ISLW team to celebrate the Foundation Day of CSIR-CLRI and ALFA with a new initiative through the webinar, wherein many participants worldwide can participate online connecting the “TRINITY” - research, academy and the industry together in the lockdown period.

Mr. N. R. Jagannathan, President, ALFA welcomed the dignitaries and all the participants and indicated that going forward, ALFA will join hands with CSIR-CLRI for collective participation with respect to CSIR-CLRI Foundation Day and ALFA Foundation Day, which is also celebrated today (24th April 2020) as customary practice and to be continued in future.

Mr. L. Nachiappa, Founder and Director, ISquare Leder Webinars (ISLW) and its objectives. He mentioned about the team webinar who volunteered during the lockdown period for a common cause - Dr. Swarna V Kanth from CSIR-CLRI, Mr. N. Viswanathan from Indofil Industries Ltd., Mr. M. Viswanathan from Leather Working Group and Mr. Shiva Kumar who is an ERP expert. The team has been ruminating to chart out an action plan for keeping the leather sector and its members live from different parts of the country. The webinars have proven to be productive, where more than 2108 participants have spent nearly 2874 hours engaging intellectually.
Dr. K.J. Sreeram, Director, CSIR-CLRI spoke about the legacy of CSIR-CLRI and expressed that the CSIR-CLRI has always been unique by virtue of its collaboration with the academy and industry. Dr. K.J. Sreeram mentioned that CSIR-CLRI has taken proactive measures at this critical time of COVID pandemic and indicated that the Institute will be establishing testing facilities to perform the antiviral test for Covid-19 virus in products and leather surfaces. He mentioned that CSIR-CLRI is available for meetings with experts through the online platform at any point of time for the industry to provide its support during this critical situation.

Post address by the Director, CSIR-CLRI, the panel discussion on “Innovation in Leather Industry – Is it going to be radical or incremental change?” was organized. The panel discussion was moderated by Dr.B. Chandrasekaran, Former Director, CSIR-CLRI. The panel members were - Mr. S.V.S. Prasad Rao, Retired General Manager, Tex Biosciences (representing leather chemical industry), Mr. V. Pandy, Managing Director, Arrow Shoes - Group of footwear companies (representing footwear industry), Mr. V. Raja Seenivasan, Managing Director, VRS Leathers Pvt. Ltd. (representing the tanning sector) and Mr. G. Ravi, who is a partner of Hi Fasn Leather Products Co. (representing the leather goods industry).

Highlights of the panel discussion:

Dr. B. Chandrasekaran, initiated the panel discussion by stating that innovation is a continuous process and only change is permanent. He insisted that especially during this time, when the industries are at cross roads, innovation should stress for paradigm shift apart from the incremental change, thus charting out an action plan considering the time factor and other resources. “Revival post lockdown will be from scratch; but given the size of the industry and availability of best practices, all that we need is a paradigm shift in the way we approach various facets of the industry including manufacturing activities. In the near future, Information Technology (IT) will play a significant role in restructuring the industry”, he said.

The Panel Moderator invited the panel members to share their views on their respective domains.

Mr. S.V.S. Prasad Rao made a presentation on leather chemicals which dealt with chemicals used in different phases of leather processing. The speaker enlightened on the relevant innovative solutions to curb the harmful effects, the benefits of using liquid chemicals and also the associated limitations. He also quoted examples of innovations like the waterless chrome tanning technology developed by CSIR-CLRI. This kind of innovations seek basic changes in the existing process to achieve better quality with minimum impact on the environment and enabling sustainability for the industry.
Mr. V. Raja Seenivasan mentioned that the leather industry has seen many recessions at various times, but the current situation is intense; Every stakeholder has a role to play in the various facets of innovation including – product, process, quality and marketing innovations. Measures are needed for improving the quality of raw hides and innovating in machinery manufacturing in our country. The industry should also think of innovative market ideas to promote the greater advantages of leather against non-leather products.

Mr. V. Pandy conveyed that innovation rejuvenates and kindles a fresh source of oxygen for the industry, though the factors of cost and relevance should also be taken into consideration. “Footwear industry also has various challenges including correct fitting issues in shoes” he said. The speaker opened up about the innovation pathway post-COVID that can lead to germ-free/microbe-free leather surface, considering the requirements of the medical and health care industry.

Mr. G. Ravi explained about innovations in three parts. For internal efficacy, we need to devise new measures like training of employees, multitasking and mechanisms to ensure cost-effectiveness. The innovation of using material trims in the leather goods industry is under-utilized currently. There is a need for innovations in the packaging sector and also in machinery manufacturing. Cross-functional collaboration is imperative for faster innovations.

Mr. V. Raja Seenivasan, Managing Director, VRS Leathers Pvt. Ltd.

Mr. V. Pandy, Managing Director, Arrow Shoes- Group of footwear companies

Mr. G. Ravi, Partner, Hi Fasn Leather Products Co.

Summary of the panel discussion

Dr. B. Chandrasekaran, Moderator of the panel discussion, summarised the talks of all the panel members. Post the panel discussion, there was a question and answer session which was moderated by Dr. Swarna V Kanth. Post the session, Mr. N. Viswanathan from the ISLW team summarised the significant points covered in the discussions. The meeting ended with vote of thanks proposed by Dr. Swarna V Kanth.
The MODEUROP Colour Club Conference slated to be held during 26-27 March 2020 in Vienna, Austria had to be cancelled OWING TO THE VIRUS PROBLEM GLOBALLY. Instead, the Creative Directors of MODEUROP met in Berlin on 27th March 2020 and have selected the colours for the Autumn Winter 21/22 season. LIFECYCLE DESIGN, DURABILITY, MODULAR FUNCTIONALITY. HISTORIC REFERENCES MEET CLEAR-CUT UTILITY LOOKS, GLAM AND GLITTER. SENSITIVE CHIC. BE A REALIST AND PLAN A MIRACLE. Oscillating between heritage, alluring charm and subtle classics, the sportive vibe gets replaced by a switch to tougher executive looks and clarity, with an insurgent, flashy and seductive spin. Historic glamour is high now.

The socio-cultural developments set the tone for three Modeurop colour themes in autumn and winter 2021 – 22: NARRATIVE_FORMATIVE_NORMATIVE

NARRATIVE

The focus is, as the headline suggests, on storytelling, on myths and legends combined with quite modern stylistics. Nature is a place of longing. Outdoor style embraces cosiness. Looks offer new narratives created by sharply contrasting elements. In terms of colours, there is a clash of different world views. On the one hand cool, shaded nuances symbolising a frosty ride through enchanted forests are prominent. Blue Haze is a fresh take on misty winter skies. Frosted Moss and Forest make a deep and natural impression. Fango is earthy and grounded. Strong contrasts with warm red and orange shades ranging from Cranberry to Chanterelle create a cosy, homely atmosphere. A toned yellow Winter Sun adds invigorating, vibrant contrasts. Dark Scarlet introduces dramatic effects. Both worlds are welded together by dark Antique Gold. The stage is set to have the curtain rise on new myths and legends!

Materials support the storytelling baseline and follow the narrative arc. Shearling presents itself in its cosiest form, smartened up by quilting, lacquered reverse sides and lacings. Fur – also in high-piled versions – is not only used in bags, but also in pumps and ballerina shoes. Denim structures have conquered the realms of leather via embossings. Metallics come in multicolour with an oil film attitude, or in darker, more aged varieties. Polished leather is on an equal footing with pull-off effects. Decorative elements and appliqués are peppered with historic references, showcasing logo metal emblems in Louis XVI-style, metal bag handles shaped like animals or ornate crystals to emphasise the theme’s soft side. Studded metal toe caps and massive metal chains represent a more martial take on this theme.

FORMATIVE

The formative impression is here: a theme of superlatives and extremes. An impressive stylistic idiom, new geometries and supersized proportions present coat collars in mega formats, maximally big shopper bags and “Puss-in-Boots” style long-shafted boots extending well below the mid-upper thigh. In terms of colours, this theme has various components forming symbiotic relationships, which open up new paths and rewrite traditional colour palettes. A solid foundation is provided by three “non-colours” White, Black and Concrete Grey. Magenta Pink makes a splash. Bell Pepper red signals strength and confidence. Dark yet radiating Mazarin Blue adds sharpness and focus. Depending on the combination, exciting contrasts or new harmonies create truly formative impressions. Innovative, experimental colour compositions is the message. Surfaces in motion is this season’s other maxim. Oversized braided elements and mega-wide, mega-long fringes are everywhere. Bonded materials occasionally reach 4D-format and come in matt, lacquered or braided optics.
Their antipode is leather as soft as butter, playing off its strength in gathered or crinkled versions. Where geometrical forms come in, surfaces are steadfast. The same goes for punched or embossed materials, including second-life plastics. Sneaker soles remain prominent and chunky, particularly in men’s fashion — with ever-new and exciting connections between upper materials and sole. Matt-shiny contrasts are on an equal footing with compositions linking rubber to leather to nylon. Partial colour applications or devoré-style transitions between smooth and embossed surfaces are innovative driving forces. Massive metal chain elements are eye-catching highlights.

**NORMATIVE**

Normative trends are pointing to the rise of new realities mixing a blast from the past with a dash of futuristic appearances. The full range of classics is key, including duffle coats, quotes from school uniforms and waisted women’s suits — not forgetting the mini skirt! Capes in various lengths and voluminous layers come with a lot of lustre to add glamour and dramatic effect. Also wallpaper patterns and inspirations from fine tapestry are on-trend.

Future meets heritage — think retromania through rose-coloured glasses mingling with futuristic elements. Colours are reflecting the retro side of things. Matt brown nuances from cool beige tones to robust Earthy Brown and very dark Moor Brown are dominant. Modern elements are introduced by bright Topaz Turquoise teaming up with Green Curry. Shades of toned Purple add highlights. A sanguine Burgundy contributes wintery pathos. Delicate Rose Quartz Pink softly radiates femininity. Steel Grey ensures neutrality and cool, very modern colour compositions. Welcome to the new retro-reality with trailblazing potential!

The wide range of materials is like a foray into the archives of historical epochs. There is liberal use of brocade fabrics, tapestries with hints of flocked structures, glamorous satin and velvety surfaces. Paisley embossings and abstract flower motifs arrive in fresh matt-to-shiny effects. Innovative quilting in contrasting colours and shimmering 3D-effects through embossing or partial foil coatings with vintage appeal are the buzz. Fancy reptile and lizard patterns are scoring through a panoply of fresh colours. Croc leather remains important, smartened up in part by a glossy metallisation of the plated carapace structures. Patent leather and shiny brushings brimming with nostalgia are still a thing. Combinations of materials such as the classic felt to leather and leather to canvas mix — with canvas given a glossy coating — play key supporting roles.

**COLOUR SELECTION**

1. GERMANY (excluding technical materials) had presented 65 leathers plus 20 recycled leather materials: 85 total
2. ITALY had presented 73 leathers
3. PAKISTAN had presented 98 leathers
4. Technical materials totalled to 100
5. INDIA had presented 499 leathers/colours
The Splendour of Colour: “An Indian Kaleidoscope”
Autumn Winter 21/22 season

499 leather/colour proposals have been developed by 14 Tanneries
Synergy Partners
CSIR-CLRI | CLE | ISF | IFLMEA
Co-Sponsors
Colourtex | Chenitan | Colourfast | Smit & Zoon | Stahl India Ltd
Partners in Progress
ALINA Leathers | ATH Leder Fabrik | Chennai Leather Fashions | DRISH Shoes Limited | Forward Leather Company | Genuine Leathers | Good Leather Company | KH EXPORTS | Naser Tanning | PA Footwear | Pakkar Leathers | RATHNAM Leathers | Shoeberry | Tata International Limited

Here are the results of the ‘WINNING COLOURS’

**GROUP I: Normative**

<table>
<thead>
<tr>
<th>No</th>
<th>COUNTRY</th>
<th>COMPANY</th>
<th>REFERENCE NO</th>
<th>COLOUR NAME</th>
<th>NEW NAME</th>
<th>SWATCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>INDIA</td>
<td>ATH LEDER FABRIK</td>
<td>02-67</td>
<td>MECA</td>
<td>CLAY</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>INDIA</td>
<td>PA FOOTWEAR</td>
<td>15-97</td>
<td>TOBACO</td>
<td>SOIL</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>PAKISTAN</td>
<td>DADA ENTERPRISES</td>
<td>CHERIE NAPPA</td>
<td>19-1619</td>
<td>SWAMP</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>ITALY</td>
<td>GRUPPO BIOCHIMICA</td>
<td>BK 126, HALF CALF</td>
<td>BURGUNDY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>ITALY</td>
<td>GRUPPO BIOCHIMICA</td>
<td>PEARL NAPUAK</td>
<td>PINK</td>
<td>ROSE QUARTZ</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>INDIA</td>
<td>GOOD LEATHER COMPANY</td>
<td>11-30</td>
<td>FOG</td>
<td>STEEL</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>INDIA</td>
<td>KH EXPORTS (MAKH)</td>
<td>12-19</td>
<td>TEAL</td>
<td>TOPAZ</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>DEUTSCHLAND</td>
<td>JACOBS GMBH</td>
<td>MIRNA/ 2KCURRY 00305</td>
<td>CURRY 00305</td>
<td>GREEN CURRY</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>INDIA</td>
<td>SHOEBERRY</td>
<td>24-12</td>
<td>PAISLEY</td>
<td>PURPLE</td>
<td>VIOLET</td>
</tr>
</tbody>
</table>

**GROUP II: Formative**

<table>
<thead>
<tr>
<th>No</th>
<th>COUNTRY</th>
<th>COMPANY</th>
<th>REFERENCE NO</th>
<th>COLOUR NAME</th>
<th>NEW NAME</th>
<th>SWATCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>INDIA</td>
<td>PA FOOTWEAR</td>
<td>15-32</td>
<td>NEGRO</td>
<td>CAVIAR</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>INDIA</td>
<td>PA FOOTWEAR</td>
<td>15-55</td>
<td>ENIGMATIC</td>
<td>BAY LEAF</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>INDIA</td>
<td>GOOD LEATHER COMPANY</td>
<td>11-11</td>
<td>CONSTRUCTION YELLOW P.U.</td>
<td>CARDAMOM</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>ITALY</td>
<td>GRUPPO BIOCHIMICA</td>
<td>005/15</td>
<td>GREY</td>
<td>CONCRETE</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>INDIA</td>
<td>ATH LEDER FABRIK</td>
<td>02-50</td>
<td>WHITE</td>
<td>BRIGHTNESS</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>INDIA</td>
<td>TATA INTERNATIONAL LTD</td>
<td>21-36</td>
<td>SCARLET</td>
<td>BELL PEPPER</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>INDIA</td>
<td>TATA INTERNATIONAL LTD</td>
<td>21-48</td>
<td>SOUR CHERRY</td>
<td>MAGENTA PINK</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>PAKISTAN</td>
<td>DADA ENTERPRISES</td>
<td>AVENGERS SOFT</td>
<td>19-3864</td>
<td>MAZARIN BLUE</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>INDIA</td>
<td>PA FOOTWEAR</td>
<td>15-31</td>
<td>ACORN</td>
<td>CLOVE</td>
<td></td>
</tr>
</tbody>
</table>

**GROUP III: Narrative**

<table>
<thead>
<tr>
<th>No</th>
<th>COUNTRY</th>
<th>COMPANY</th>
<th>REFERENCE NO</th>
<th>COLOUR NAME</th>
<th>NEW NAME</th>
<th>SWATCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.</td>
<td>INDIA</td>
<td>KH EXPORTS (MAKH)</td>
<td>12-34</td>
<td>LIGHT GOLD</td>
<td>OLD GOLD</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>INDIA</td>
<td>ATH LEDER FABRIK</td>
<td>02-48</td>
<td>OLIVE GREEN</td>
<td>FANGO</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>PAKISTAN</td>
<td>DADA ENTERPRISES</td>
<td>CHERIE NAPPA</td>
<td>16-6730</td>
<td>FROSTED MOSS</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>ITALY</td>
<td>GRUPPO BIOCHIMICA</td>
<td>BK 106</td>
<td>BURGUNDY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>INDIA</td>
<td>DISH SHOES LIMITED</td>
<td>08-01</td>
<td>TURKIN</td>
<td>BLUE HAZE</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>ITALY</td>
<td>GRUPPO BIOCHIMICA</td>
<td>BK 142</td>
<td>DANK SCARLET</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>PAKISTAN</td>
<td>DADA ENTERPRISES</td>
<td>ZENNUBAK</td>
<td>CAFFE 19-1533</td>
<td>CRANBERRY</td>
<td></td>
</tr>
</tbody>
</table>

CSIR-CLRI is pole vaulting in the field of trends forecasting for leather and leather products!
National Technology Day Celebration 2020

National Technology Day is celebrated on 11 May every year at CSIR-CLRI and a National Technology Day lecture organised by inviting the CSIR-CLRI’s Clients for Customer feedback. Hence, National Technology Day lecture 2020 was delivered by Shri G.Gopalakrishnan, Managing Director, M/s. Sellam Chemicals, Chennai. The Lecture was webcasted after the web casted after address by Dr.K.J.Sreeram, Director, CSIR-CLRI.

Director’s Address:

“As we webcast the National Technology Day lecture, the Technology Development Board, Department of Science and Technology and CII is organizing a digital conference on RESTART – Reboot the economy through science, technology and research translations. The year 2020 has been special. The current pandemic situation is being managed well only through S&T interventions, be it technologies for testing, development of re-purposed drugs and efforts on the development of vaccines. Never in the history of S&T, has science-backed technology development and translation moved in such speed to enable the governments world over to effectively handle the pandemic.

A very few had seriously considered a contingency plan for an economy that has been shaken at its very foundation by a virus. Even now, World leaders are considering the coming out of lockdown situations keeping in mind the effect of the virus on the economy. The phrase “The New Normal” has now caught all our attention, which according to some means living with the virus. There are economists who are predicting that the Indo-Pacific or the Asia-Pacific Economic Cooperation plus India, which accounts for 60% of the world GDP is likely to be the new Technology Power. In the manufacturing economy, including that of leather, the huge question for the post-pandemic world is the role of China: more specifically how, the rest of the world would treat China. For instance, India itself plans to ramp up production of active pharmaceutical ingredients so that drug manufacturers in India and other parts of the world can have an alternative supplier in India. Pre-COVID, India imported 70% of its bulk drugs and intermediates from China. Post-COVID, India is looking at self-sufficiency in manufacturing of APIs for over 200 drugs out of 373 that is listed as India’s essential medicines. This scenario is more or less similar to that faced in the Indian leather sector.

In the mid 80s, The Government of India Enterprise Balmer Lawrie entered the leather chemicals business for the indigenous production of fatliquors by scaling up the technologies developed by CSIR-CLRI. CSIR-CLRI has been contributing to the development of technologies for leather processing, leather chemicals, waste management, value addition to wastes and in recent years even for realising high value products from wastes since 1953. Some of these contributions are being put through to you as snippets in Twitter and Facebook. It is now time for the Indian Leather Industry including global leather chemical houses manufacturing from India to develop auxiliaries based on Indigenous resources. A predominantly large number of technologies available with CSIR-CLRI today are based on indigenous resources. CLRI would bring out a compendium of such technologies for the Indian market very shortly. It is in this background that the role of leather technologists turned entrepreneurs in the leather chemical sector is going to become more relevant. Sellam Chemicals Pvt Ltd. founded by Shri P Gopalakrishnan, M.Tech in leather technology from CSIR-CLRI has significantly grown from converting the outcome of the M.Tech project work into industrial technology to a manufacturer of a range of fifty finishing, wet end and wet blue upgradation chemicals. Equipped with the state-of-art the manufacturing facilities, Sellam’s catalogue boosts of a range of chemicals for the Indian raw material. CSIR-CLRI and Sellam Chemicals brought to the world a Chrome – Melamine Syntan free of formaldehyde. The first of its kind formaldehyde free chrome – melamine combination product, the product has made tremendous in roads in the Indian leather industry within a very short time. An ardent supporter of the CSIR, Shri Gopalakrishnan and his team leave no stone unturned to propagate CSIR and CLRI in the leather world.

On this technology day as Shri Gopalakrishnan narrates his journey in the leather world, we see an opportunity for Indian technology, entrepreneurs and new generation technologists to lead Indian manufacturing sector to greater heights. Let the technologists who come out of the institute, the leather industry leaders, the policymakers and the upcoming graduate entrepreneurs RESTART – Reboot the leather industry through science, technology and research translations, thus leveraging their traditional strength of providing employment to people in the lowest strata of the economy, converting a waste product of the animal husbandry industry into a value-added leather product.

“JAI HIND”
“The Experience of my Journey as a Technocrat”
by Mr. P. Gopalakrishnan, Managing Director, M/s. Sellam Chemicals
Lecture on National Technology Day - 11 May 2020

Mr P Gopalakrishnan, founder of Sellam Chemicals started the speech by delivering his warm greetings to CSIR CLRI Director Dr KJ Sreeram, for inviting him on the occasion of National Technology Day to share the experience of his journey as an Indian leather chemical manufacturer for more than three decades.

He graduated from Anna university under the guidance of eminent scientists Padma Bhushan Dr T Ramasami, Dr S Kulasekaran and Dr D Ramasamy, and acquired knowledge on leather science and technology from the world renowned leather research institute, CSIR CLRI, during his Master’s degree after which he ventured into promotion of SELLAM Chemicals with the first product Selchem binder G, a modified protein binder. “As a Technocrat as well as the alumnus of this great institute, I feel really privileged to be part of this celebration,” He said.

“It was on this same date, 1 May 2016 on which SELLAM received technology transfer package for eco-friendly chrome melamine syntan from CLRI. The product “Selchem binder G” started serving the leather industry with the increased wet rub fastness of glaze finishes when market available protein binders were lacking in wet rub fastness and suffer from the problem of brittle films”, He added.

He subsequently added “In 1987, a new concept in protein chemistry with the launching of a self-plasticised binder, which can be cast into a flexible film, was introduced. To save the cost of resin finishing, SELLAM launched an anionic filler to enhance the depth of shade and covering with less number of coats.

In the year 2000, the first cationic compact range of products was introduced to suit the requirements of functional properties of leather finish for many types of leathers. It marked a remarkable milestone in the history of SELLAM, a way forward in upgradation technology of finished leather, to achieve improvement in selection to 1 or 2 grades by covering the defects of leathers without loading on grain and thus preserving the aesthetic look and feel of leather.

In March 2016, SELLAM received its license from CSIR CLRI to manufacture and market the eco-friendly chrome melamine syntan, which is a technology patented by Dr J Raghava Rao, present director Dr KJ Sreeram and a team of other scientists. SELTAN CM was a novel chrome syntan, First product of its kind, in the history of leather processing technology in the world”.

The below given advantages were mentioned regarding the product:

Unique Advantages of SELTAN CM include:

• Zero formaldehyde. Eco-friendly with no possibility of Cr (VI)
• Selective filling and grain tightening effect on loose area of belly region
• Provides fine grain with soft handle
• Increase in thickness without affecting area yield
• Good dye levelling, excellent buff ability with natural sheen
• Produces uniform milling pattern
• Overall Upgradation and better cutting value

Recognition of SELLAM’s contribution towards successful commercialisation of the invention of CSIR-CLRI was acknowledged by The Sujatha Venkateswara Rao excellency award for technologist 2020, which was jointly received by CSIR CLRI and SELLAM at LERIG 2020.
“In 2017, SELLAM had intensified its research towards tackling the burning issue of TDS and environmental problems associated with the recovery of salt from the ETP by expensive RO treatment through in-process control measures. In light of the above, Inspired by numerous developments happening all over the world including the well-recognised waterless and dry chrome tanning systems from CSIR CLRI, we have successfully launched a new innovative concept in chrome tanning ‘SELLAM - NITS(Novel intelligent tanning system)’. In this concept, we have totally avoided the conventional deliming and pickling process. This concept involves Deliming with the new proprietary product followed by pre-treatment with a specially engineered product to consolidate the collagen fibres and acidification prior to offering chrome, which results in near total exhaustion of chrome at the end of tanning”, He said

On this occasion, he reiterated the eco-friendly advantages and unique features of this interesting cleaner processing technology towards creating a greener world. It is to be noted that SELLAM - NITS concept is well accepted and adopted by the leading export houses in India with nearly 25 lakh sq. ft. of wet blue produced from hides and skins across different origins. He also placed importance on the vital role of CSIR CLRI to innovate new and economical process technology to produce eco-friendly leathers by Indian leather industry to compete the exporters in global market and raise our contribution from 1.5% to 20% market share. “We look forward to more training facilities in CSIR CLRI for improving the skilled workforce and strength in product fabrication, in order to meet the demand from changes in world order by our country,” He added.

In continuation he emphasised “SELLAM team salutes the contribution made by scientists and staffs of CSIR-CLRI for the nation. We will always be interested in taking any new break-through technologies of CSIR-CLRI in mutual agreement towards the benefit of the leather sector. The true purpose of this day is achieved by motivating the young technologists to enrich scientific knowledge, gain self-confidence with a focussed mind to achieve their ambition and dream, to emerge as the future technocrats of our country and make INDIA a super-power nation soon.”

“Long live Indian technology, Indian heritage and cultural value.”

---

**Webinar Presentation on “Women in Science”**

Indian National Young Academy of Science (INYAS) and Institute of Home Economics (IHE), Delhi University organized a webinar series "Igniting through Science" during April 28-May 3, 2020 with two talks every day. Dr N Nishad Fathima, Senior Principal Scientist, CSIR-CLRI as member of INYAS was invited to make a presentation in this webinar series on the topic titled “Women in Science” on April 28, 2020 between 3 to 4 PM.

Dr Nishad delivered the talk with motivating stories about famous women scientists in the world with special focus on Indian women scientists. The anecdotal narrative coupled with cartoons not only evoked pearls of laughter but also gave a lot of food for thought. The gender issues faced by women through the ages and how the successful women surmounted them were also brought out. The talk concluded with the take home message that “Women should believe in their true potential and value themselves”.

The webinar witnessed about 100 to 110 participants and the presentation was well received and appreciated by one and all present.
Applications of Industrial Engineering Concepts in Sample Development Process of Leather Products

BACKGROUND

The sample development and the production processes are in the same season, but the sample development process is consuming more time than the production. The duration of the sample development process analyzing the issues and difficulties in each stage of process to be reduced would help. Further, to find a solution for the causes by fishbone diagram and it represents the problems clearly to diagnose, and bring out the proper and suitable methodology. Industrial Engineering concepts are to be utilized in sample development process and already those concepts are effectively implemented in production processes. The same can be applicable for sampling processes to eliminate the non-value added activities and also have proper monitoring on each stage of time consumption by the top management for the work transparency. The involvement of top management in sample development process provides good attention between the people working in that and there is an achievement of team work to expose the good results. For the concern to reduce the duration of sample development process by analyzing the issues and difficulties in each stage of process. Further to find a solution for the cause by fishbone diagram and it represents the problems clearly to diagnose and bring out the proper methodology.

STAGES OF WORK INITIATION

Forecasting: Forecasting is the process of estimating needs and requirement in terms of the existing processing of the development of timing, quality, and location for the desired process and service. Good forecast should be accurate, reliable, timely, easy to understand and cost-effective and can range from the simple to the extremely complex.

Analysing issues and difficulties: By determining the various causes and problems in each stage of the development process tends to provide appropriate solutions for the problems. For better reviewing of causes and difficulties through the fishbone diagram provides clear and concurrent of the solutions.

Evaluation of the Process: The main difficulty in the sample development process is that each buyer having their own development process and the factory have to undergo by the specified process. Hence the time consumption of each stage of the process is still unknown. To determine the time duration of each stage of processes for every buyer can be attained through the provided tracking template. Some of the customers change material specification at any stage of the sample process and it is unexpected. Hence the monitoring should be properly distributed to the departments involved.

Process Planning and Control: With the determined problems and difficulties, the scheduling of the work process and monitoring of the work and transparency of the work to the superior for the ease of understanding.
The material tracking status is also mandatory to plan the sampling process by the material tracking template provided, and it should have been verified in weekly meeting for updating the status to all the departments involved in the sample development process. Each stage of sample process has to be monitored/tracking is predominantly required to plan the sampling process of each buyer. This work initiation of industrial engineering concepts in sample development process is complex, hence steadily the problems have to analysed and visualized to technical diagrams, herewith the fishbone diagram has been used for the better understanding and clear representation for the initiation of the alternative methodologies and the supportive measures to the production process during the sample development process itself.

**Process Monitoring Template:** The issues of monitoring/tracking process can be attained and is the best way to provide the clear information to the top management and it should be processed weekly. By this initiation, the work of sampling can be effectively monitored by all the levels of management to prioritize the stages of work and effective allocation of manpower for the concerned process.

**Material Tracking Template for sampling:** To understand the status of the material and proper planning and also for prioritizing the sampling processes.

**Communicative Template:** In daily/weekly meeting/brainstorming the sample process can be discussed and prioritized according to the requirements of the buyer’s needs and also includes the issues and the responsible person for the issue tracking and resolve for the ease on sampling process.

**CONCLUSION**

The problems in the sample development process is day by day increasing and there should be the need of solutions to face and overcome the difficulties in the various terms of department. Therefore, the analyzed solutions are also visualized in fishbone diagram for the clear representation, this provides the crystalline information of where it should initiate the concepts of industrial engineering. The main objective of this concept is to standardize the sample development process and also to minimize the non-value added activities in order to reduce the time consumption and overcome difficulties in sample development process and this would provide the time duration for the proper planning, supportive measures and work/method study to achieve an efficient production.
Any situation will throw up challenges and if these are faced, it provides opportunity. COVID-19 has snatched the rug from under the feet of the world. No one envisaged that such a catastrophic circumstance would prevail for so many months. Under these trying conditions, it was the wise move by the Government to go full steam in controlling the pandemic with various measures. One such was the advice of the population to use a face mask. With the resources available, men and machine, under the guidance of the Director, CSIR-CLRI, the Shoe & Products Development Center (SPDC) set upon the task to manufacture reusable (washable) face mask as per the guidelines (material and manufacture techniques) issued by the office of the Principal Scientific Advisor to the Government of India. The manufacturing methodology adopted was of two types – hand sewn and machine stitched. This methodology of manufacturing is a simple technique that can be utilized by anyone. Given the spread of the pandemic to every section of the society, it was but natural to feel that those with similar arrangement could try their hands at the fabrication of masks. Those with sewing machine facilities similar to CSIR-CLRI or those with other amenities may be benefitted if these manufacturing methods were imparted to them. Hence it was decided to make a video tutorial of the entire procedure of mask manufacturing by sewing machines. This video would be of immense help, not only to small industries type set-up, but also to households with a sewing machine at home. What if some households didn’t have sewing machine? Video tutorials for mask manufacturing technique using hand sewn method were also simultaneously made. These two videos dwell deep into the procedures of mask manufacture with precise and easily understandable demonstration combined with simple narrative. The above e-learning tutorials were launched in CSIR-CLRI website (www.clri.org) on the foundation day of the institute. The above tutorials can be accessed in the following YouTube links.

https://youtu.be/XAJVemyHAw4
(Sewing machine manufacturing method)

https://youtu.be/5y8ctcECbb4
(Hand sewn mask manufacturing method)

The idea behind this video concept is to do our part to the society in the fight against this pandemic. This is a simple & small step to promote self-reliance amongst us initiated by CSIR-CLRI towards our society.
The rapidly escalating cases of COVID-19 have alarmed an emergency across the globe. While the pandemic statistics declare 4.5 Million cases and 0.3 Million deaths worldwide, these numbers could be underestimated as several cases would have gone undetected. In India, the cases have sharply risen above 100 thousand as of 19 May, 2020, which may trigger the fear of community spread shortly. Therefore, screening of a larger number of populations is highly recommended to contain the spread.

CSIR-CLRI is geared up with the state-of-the-art facilities to conduct COVID-19 testing and provide a helping hand to the nation, along with its regular research mandate on leather technology. The state-of-the-art facility is constituted with the specialized cloud-enabled COVID-19 testing laboratory at BSL-3 in a container had been sponsored by Hewlett Packard (HP). With the support of CSIR-IGIB, TrueNat diagnostic platform for COVID-19 testing had been established in the container.
TrueNat platform has been recently approved by the Indian Council of Medical Research (ICMR) for COVID-19 testing. It is one of the fastest performing tools that is based on the micro Real Time Polymerase Chain Reaction (RT-PCR) technique for diagnosis. It takes nearly 25 minutes for the extraction of nucleic acids from the swab sample and an additional 35 minutes for micro-RTPCR analysis. Using this facility about 60 samples per day can be screened for COVID-19. Based on sample pooling, processing capacity can be increased further. While negative samples can be reported, COVID positive samples need to be further confirmed using a conventional RT-PCR based analysis. CSIR-CLRI has also established a conventional BSL-2 laboratory for COVID-19 testing and this facility would be used for the confirmation of positive samples from TrueNat. Further BSL-2 facility can process additional samples for COVID-19 testing in parallel to TrueNat platform established at container sponsored by HP. Facility was soft launched for COVID testing on 18 May 2020. Positive and negative control samples are being processed for validation and reporting to ICMR. Full-fledged COVID 19 sample testing activity will commence as soon as the receipt of final approval from ICMR.
Ready to use finished consumer articles like footwear, goods and garments are made using outer materials such as Leather, Polyurethane (PU), Poly Vinyl Chloride (PVC) coated fabrics and textiles. In the case of Footwear outsole, materials like PU, Rubber (solid and cellular), Ethyl Vinyl Acetate, PVC, Thermoplastic rubber and other plastics are widely used. The list of accessories used in the product making are laces, buckles, eyelets, D-Rings, Velcro, Elastics, Zip, Thread, Reinforcement tapes, Adhesives and Bindings, Insole/In-sock, Stiffeners etc. Needless to say, chemicals and auxiliaries play a major part while producing these components as input materials. These chemicals also facilitate to impart intended properties namely durability, resilience, capability to withstand against various environmental conditions for finished products. However, the usage of such chemicals to meet the required properties should not affect the wearer/consumers.

Accordingly, the Indian standard ‘IS 17011: 2018 - Chemical Requirement for Footwear and Footwear Materials’ also known as Innocuousness Test has listed those critical substances into five different categories as mentioned below based on its potential impact to the consumer.

As per this protocol, the class of chemicals that would be present in footwear materials is listed in Table-1 & Table-2 as per the IS 17011:2018. The Table-1 prescribes about the chemicals with acceptable limits, using a recognized test method to quantify them. List of chemicals that are given in the Table-1 are from Category 1 and Category 2 which are mandatory for screening and the product should comply with the prescribed levels. The list of chemicals mentioned in Table-2 is classified under category 3 to 5 for information purpose only to create awareness as they may be included in the mandatory list later.

<table>
<thead>
<tr>
<th>Critical Substances Category</th>
<th>Reason of Chemical Substance Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Chemical substance with proven dangerous effect on the wearer</td>
</tr>
<tr>
<td>Category 2</td>
<td>Chemical substance with dangerous effect on the wearer</td>
</tr>
<tr>
<td>Category 3</td>
<td>Chemical substance with environmental Impact</td>
</tr>
<tr>
<td>Category 4</td>
<td>Chemical substances that are highly suspected to have an effect on the wearer</td>
</tr>
<tr>
<td>Category 5</td>
<td>Chemical substance that are suspected to have an effect on the wearer</td>
</tr>
</tbody>
</table>

Furthermore, the product when discarded could leach harmful substances into the soil.

Considering the above factors, Bureau of Indian Standard (BIS) has developed a standard protocol to test/certify the footwear (IS 17011:2018) which lays emphasis on screening harmful chemical substances. These substances may potentially be found in footwear or its components which may adversely affect the wearer or may create an environmental impact due to its reactivity. The screening of such compounds is necessary as they are known for their toxicity, carcinogenicity and mutagenicity or allergic to consumers.

CLRI-CATERS has the infrastructure and expertise to perform the entire chemical tests listed under Table-1 and Table-2

We are happy to announce that BIS has authorized CLRI-CATERS as the Sole Testing Laboratory for the analysis of footwear as per IS 17011: 2018. CLRI-CATERS is also an NABL accredited laboratory as per ISO 17025:2017 and is also accredited by SATRA UK. Most of the tests that are covered under IS 17011:2018 are part of the scope of accreditation of CLRI-CATERS by NABL.
Institutioal Activities

CSIR-CLRI designed and fabricated an ergonomically compatible “Foot-Operated Hand Sanitizer/Liquid Soap Dispenser” as one of the measures in maintaining the hygiene to ensure health and safety of the employees in the wake of spread of COVID-19 pandemic. It is made up of the materials available at the institute premises and ergonomically designed having foot-pedal aligned with the elevated angle and is user-friendly. Similarly, foot operated water taps are designed and installed at main gate and staff club gate to ensure that the staff, students, and visitors of the institute need to wash their hands with the liquid soap as per the instructions of Ministry of Health and Family Welfare.

In line with the several activities to mitigate the pandemic due to COVID-19, CSIR-CLRI made the protocols and arrangements for sanitizing the materials moving in to the campus. An ultrasonic fogger machine has been installed at all the entry points of the institute. All the bags, parcels, and posts are being sanitized using the dilute soap solution for about 20-30 seconds, then allowed to dry before being carried out in to the institute premises.
Today, the lockdown in India represents a massive logistical and implementation challenge given the population size and its density. Lacking jobs and money, and with public transportation shut down, hundreds of thousands of migrants who have no job security or protection, are forced to trek back to their home villages. The sudden displacement of migrant labour would have far-reaching impact on the Indian economy. Coronavirus has taught workers that distance matters. The virus has given a new lesson in distance and could lead to a significant reduction in long-distance migration. A number of migrant workers who fled the big cities may never return, preferring to eke out a living on their marginal farms or find work in nearby towns.

The Economic Survey 2016-17 had estimated that at least nine million people migrate annually within the country, most of them in search of work. While the top destination for migrants is Delhi, followed by Mumbai, the southern states have become a migrant magnet in recent years. The largest number of them sets off from Bihar, UP, Bengal and Assam, often traveling more than 3,000 km to distant Kerala. Typically, workers wait out a crisis before setting out again in search of work. The waiting period may be much longer this time, and therefore the impact as well.

This is a classic scenario where the migrant population is pushed into entrepreneurship by unemployment or underemployment, attracted by the idea of living in the rural, or motivated by ideas of independence, flexibility and status.

The versatility with which CSIR-CLRI handles both research and HRD has been the highlight with respect to the model followed by CLRI in serving the Indian leather sector. But, it seemed to be an exceptional case. A lot of factors were helpful for CLRI to run that many academic and vocational programs for the Indian leather sector along with its mandate of serving the Indian leather industry with consultancy and sponsored research projects. A synergizing academy in Anna University and a vibrant, ready-to-absorb leather industry made this trinity research-academy-industry a reality. The surprising thing was that HRD service was CLRI’s embryonic mandate.

Now CSIR CLRI, aims to target the illiterate migrant population who are also financially weak and then to develop entrepreneurs with special focus on women. Social distancing aspect will be taken care of while training. So the mode of training would be predominantly through a virtual medium.

Entrepreneurship among women, no doubt improves the wealth of the nation in general and of the family in particular. The development of women entrepreneurship creates a new array of women leader/entrepreneurs, which provides employment to thousands, contributing greatly to the nation’s wealth and economy. There are about ~ 18000 women entrepreneurs in India according to “Report of MSMEs, 12th Five year plan 2012-2017”.

Leather goods/accessories contribute to one third of the Indian leather products export. Designers and pattern makers are in good demand in the leather goods industries at India and other countries around the world. Design and making of leather goods involves many skilled operations including sketching, pattern making cutting, table operations, stitching, finishing etc. There is limited number of institutions to supply the required manpower to the industry. Hence it is aimed to develop a training course which provides convenience and flexibility to the learner so that large number of people are encouraged to enrol and make this a career option.

Learning will change with COVID-19’s social distancing. The virus has given a new lesson in distancing and that could lead to a significant change in learning strategies. CSIR CLRI has already developed an online course (or) E-Learning course for leather goods design and fabrication for the benefit of the students in India and abroad. Further, it aims to provide distance learning to the targeted audience for all its vocational training programmes. Without question, the COVID-19 pandemic is “a tragedy”. And the call for social distancing has created an extremely challenging environment for learners, and the people who conduct the courses. Eventually, however, life will return to normal. When that time comes, we believe, online learning will also be normal.
Handing over of a sixth batch of Hand Sanitizers, 150 litres to Dr. Hemalatha, City Medical Officer, Tamilnadu on 22.05.2020 by Dr. K.J. Sreeram, Director, CSIR-Central Leather Research Institute to support the Chennai Corporation Employees and Hospital workers to protect them from COVID-19.
Best Wishes on your retirement

Shri. K. CHANDRA BABU
Sr. Technician (2)
Civil Engineering Department

Shri. A. AYYAMPERUMAL
Sr. Technician (3)
Civil Engineering Department

Shri. S. SUBBIAH
MTS
Canteen

Homage

CSIR-CLRI grieves the demise of

Prof. S. K. Joshi, Former Director General
CSIR

Sri Umesh Kumar Sharma
Sr. Technical Officer (2)
RCED, Kanpur
CSIR-CLRI

World’s Largest Leather Research Body. A Dependable Source for Technologies & Services

Cutting Edge Technologies in Leather Processing
Consultancy Services
Education & Training
State-of-the-art Testing Facilities
Health Care Products
Environmental Technology
Leather Chemicals
Leather Processing

Striving for Excellence and Global Leadership in Leather Technology

Global Leadership in Leather
www.clri.org