

INDUTECH 2016



THIRD INTERNATIONAL CONFERENCE



INDUSTRIAL TEXTILES – PRODUCTS, APPLICATIONS AND PROSPECTS

26th & 27th August 2016

Summary Report

Organized by

DEPARTMENTS OF TEXTILE TECHNOLOGY & AUTOMOBILE ENGINEERING



**PSG COLLEGE OF TECHNOLOGY
COIMBATORE**



In Collaboration with

**OFFICE OF THE TEXTILE COMMISSIONER
MINISTRY OF TEXTILES**

GOVT. OF INDIA

&

HOF UNIVERSITY OF APPLIED SCIENCES

GERMANY

&

INSTITUTE FOR FRONTIER MATERIALS (IFM)

DEAKIN UNIVERSITY, AUSTRALIA

&

NORTHWEST COMPOSITES CENTRE

SCHOOL OF MATERIALS

University of Manchester, UK



International Conference on “Industrial Textiles – Products, Applications and Prospects” – InduTech 2016

Industrial Textiles offers new ways, means and opportunities for the Indian textile industry to sustain the present growth and thrive in the near future. It would offer not only an opportunity for augmenting the growth, but also a new direction for advancement of the industry. Technical textiles consumption under Indutech in India is estimated at around Rs 2,326 crores with domestic consumption under Indutech expected to increase at a CAGR of around 12%. The Industrial textiles segment remains untapped in India and hence offers potential for further growth.

To showcase the key innovations and opportunities arising out of academic and industrial research in Industrial Textiles, the Departments of Textile Technology and Automobile Engineering of PSG College of Technology, along with Hof University of Applied Sciences Fachhochschule, Germany; Institute for Frontier Materials (IFM), Deakin University, Australia and Northwest Composites Centre, School of Materials, University of Manchester, UK in collaboration with Office of the Textile Commissioner, Ministry of Textiles, Govt. of India jointly organized the **Third International Conference on “Industrial Textiles – Products, Applications and Prospects” – InduTech 2016 on 26th & 27th August 2016** at PSG College of Technology, Coimbatore, India.

The conference was organized as a part of the **“Centre of Excellence on Industrial Textiles (COE)”**, **PSGTECHS COE INDUTECH** activities, which provided a platform for exchanging of cutting edge ideas, creating awareness in the area of Industrial Textiles. Topical papers focusing on the entire spectrum of industrial, automobile and smart textiles were presented by eminent scientists, researchers and industrialists in this field. The conference envisaged participation from institutes and industries working on industrial textiles.

The conference had 6 different plenary sessions comprising of 18 speakers from all over the globe from Industry, Research Organizations and Institutes; 8 parallel technical sessions comprising of 40 speakers; and an exhibition of products wherein 12 different companies

exhibited their products in the stalls. Totally there were 250 participants from across the World from Industry, Research Organizations and Academic Institutes.



InduTech 2016 Conference Souvenir Released by The Chief Guest Shri. Sanjay Chatrath President and CEO - Tire Cord & Polyester Yarn, SRF Limited, India

The conference was inaugurated on 26th August 2016 9:30 am in the presence chief guest **Shri. Sanjay Chatrath** President and CEO - Tire Cord & Polyester Yarn, SRF Limited, India, Guests of Honour, **Prof. William Sampson**, Head of School of Materials, University of

Manchester, UK; **Prof. Wolfgang Schrott**, University of Applied Sciences Fachhochschule, Hof, Germany. The Chief guest and Guests of Honor addressed the need, growth potential, standards and commercial aspects of industrial textiles.

Prof. Dr. G. Thilagavathi, Organizing Secretary, InduTech 2016 & Head, Department of Textile Technology, PSG College of Technology, welcomed the gathering,



Inauguration of InduTech 2016 Conference Stall Exhibition by Chief Guest Shri. Sanjay Chatrath President and CEO - Tire Cord & Polyester Yarn, SRF Limited, India

Prof. Dr. R. Rudramoorthy, Principal, PSG College of Technology delivered the presidential address, **Prof. Dr. S. Neelkrishnan**, Organizing Secretary, InduTech 2016 & Head, Department

of Automobile Engineering, PSG College of Technology, presented about the conference and **Dr.S.Periyasamy**, Joint-Organizing Secretary, Department of Textile Technology, PSG College of Technology, delivered the vote of thanks. Followed by the inaugural function, the august members have also inaugurated the stalls at the Quadrangle PSG Tech.

Subsequently the plenary sessions commenced at 11:30 am 26th August and totally there were 6 different plenary sessions.

Plenary Session I on the theme of '*Nonwovens and Composites*' was chaired by **Prof. Dr. Wolfgang Schrott, Hof University of Applied, Germany**, and Co-chaired by **Prof.**



Plenary Session I: Lecture Delivered by Prof. William Sampson, Head of School of Materials, University of Manchester, UK; Moderated by Prof. Dr. Wolfgang Schrott, Hof University of Applied, Germany,

R.P.Sundaram, Department of Textile Technology, PSG College of Technology. The speakers of the session **Prof. William Sampson**, Head of School of Materials, University of Manchester, **UK**, **Prof. Prasad Potluri**, Director of Research,

Northwest Composites Centre, School of Materials, University of Manchester, **UK**, **Dr. PKC Bose**, Managing Director, SAERTEX India Private Limited, **Pune** discussed on Modelling Nonwovens Architectures: Applications to Composite Mechanics, State of the Art in Textile Preforming of Aligned Fibres for Composites, Advanced Composite – World of Opportunities in India, respectively.

Plenary Session II was chaired by **Dr Ela Manoj Dedhia**, Head, Department of Textile & Fashion Technology, Nirmala Niketan College of Home Science, Affiliated to University of **Mumbai** and Co-chaired by **Prof.Dr.N.Anbumani**, Department of Textile Technology, PSG College of Technology. **Mr. Aleksander KOPRIVC** Industry Manager Automotive at Zwick GmbH, **Germany**,

presented Automotive textile materials testing **Mr. Khalil Sleiman**, Business Development and Marketing Manager, LACOM GmbH, **Germany**, presented Machine and production line concepts for solvent free coatings of



Plenary Session II: Lecture Delivered by Mr. Aleksander KOPRIVC Industry Manager Automotive at Zwick GmbH, Germany

technical textiles with functionalized hot melts and **Mr. P. Senthil Kumar**, Manager - R&D, Engineering, Autoliv India Private Limited (Seatbelt Webbing Plant), **Mysore** presented Textile product development and quality management for automotive applications. Thus the theme of the session was essentially on '*Coated and Automotive Textiles*'.

Plenary Session III on the theme of '*Abrasive Textiles and Testing*' was chaired by **Prof Deepti Gupta**, Department of Textile Technology, IIT Delhi, **New Delhi** and Co-chaired by **Dr.M.Senthilkumar**, Associate Professor, Department of Textile Technology, PSG College of Technology. The speakers of the session **Dr.Christopher Hurren**, Institute for Frontier Materials, Deakin University, **Australia**, **Dr. Xavier Kennedy**, GM, Head Technical and R&D, Carborundum Universal Ltd. **Chennai**, **Dr. Mohit Raina**, Frederik Cloppenburg, Institut für Textiltechnik Aachen, RWTH Aachen **Germany** deliberated on Dynamics of impact of textiles materials with a moving surface, Industrial textiles in abrasive applications and Simulation and quality control –capabilities and boundaries for nonwoven products, respectively.

Following the plenary sessions, a panel discussion on the conference theme 'Industrial Textiles - Products, Applications and Prospects', moderated by **Prof.**

Dr.V.Natarajan,

Principal, Apollo Priyadarshanam Institute of Technology, Kancheepuram and Co-Moderated by **Dr.R.Murugan,** Associate Professor, Department of Textile Technology, PSG College of Technology was conducted. Members of the panel who shared their views were **Prof. Dr.**

Wolfgang Schrott, Ecology - Textile chemistry - InnoTex Programme, Hof University of Applied Sciences, Fachhochschule Hof, **Germany,** **Prof. William Sampson,** Head of School of Materials, University of Manchester, **UK,** **Prof. Prasad Potluri,** Director of Research, Northwest Composites Centre, School of Materials, University of Manchester, **UK,**

Dr.Christopher Hurren, Institute for Frontier Materials, Deakin University, **Australia,** **Mr. Khalil Sleiman,** Business

Development and Marketing Manager, LACOM GmbH, **Germany,** **Prof. V.K.Kothari,** Indian Institute of Technology, **New Delhi,** **Prof. R. Alagirusamy,** Department of Textile Technology,



Plenary Session III: Prof Deepti Gupta, Department of Textile Technology, IIT Delhi, New Delhi introducing the Speakers for the Session



Panel discussion on the conference theme moderated by Prof. Dr.V.Natarajan, Principal, Apollo Priyadarshanam Institute of Technology, Kancheepuram

Indian Institute of Technology Delhi, **New Delhi**, **Mr. P. Senthil Kumar**, Manager - R&D, Engineering , Autoliv India Private Limited (Seatbelt Webbing Plant), **Mysore**.

At the end of the technical events, a cultural program by PSG Tech Music Team was performed and followed by dinner to make the end of the first day.

Second day of the InduTech 2016 conference was started with the plenary session IV at 9:00 am on August 27, 2016

Plenary session IV chaired by **Shri. Sudarsan Rajagoplan**. B.Text (Engr) & MBA, CIO (Chief Innovation Officer) & Strategist, Splendour Medicare Technologies, Co-chaired by **Dr.M.Subramanian**, Associate Professor, Department of Automobile Engineering, PSG College of Technology, focused on Thermal Insulation and Acoustic Absorption Properties of Nonwoven Fabrics, Commingled Hybrid Yarn Development, Strength Loss in Cords during Tyre



Plenary Session III: Prof. V.K.Kothari, Department of Textile Technology, Indian Institute of Technology Delhi, New Delhi delivering his lecture

Manufacturing by **Dr. Rajesh D. Anandjiwala**, Chief Researcher: Nonwoven and Composites Research Group, Polymers and Composites Competence Area, CSIR Materials Science and Manufacturing, **SOUTH AFRICA**
Prof. R. Alagirusamy,

Department of Textile Technology, Indian Institute of Technology Delhi, **New Delhi**, **Prof. V.K.Kothari**, Department of Textile Technology, Indian Institute of Technology Delhi, **New Delhi**. Thus the main theme of the session was on '*Acoustics and Industrial Yarns*'.

Plenary session V on the theme '*Trade Scenario and Finishing*', was chaired by **Dr. Selvaraju**, Secretary General, SIMA, Coimbatore and Co-chaired by **Dr.J.C.Sakthivel** Assistant Professor, Department of Textile Technology, PSG College of Technology. The speakers of the



Plenary Session V: Dr.G.Badrinarayanan, Senior Economist, McKinsey and Company, USA, delivering his video lecture

IIT Delhi, Hauz Khas, **New Delhi**, discussed on The Potential Impact of Global Trade Agreements on Industrial Textiles in India: The Role of Costs and Standards, Living Tech— Domestic and Industrial Textiles, Self Cleaning Treatments for Industrial textiles, respectively.

The lecture delivered by

Dr.G.Badrinarayanan was a video conference.

Plenary session VI chaired by **Shri. E.S. Sankar**, Consultant and Ex-Chief Operating



Plenary Session VI: Shri. E.S. Sankar, Consultant and Ex-Chief Operating Officer, Madura Garments, Bangalore presenting memento to Mr. J.M.Balaji Head-Marketing, Lakshmi Caipo Industries Limited, Coimbatore

session

Dr.G.Badrinarayanan, Senior Economist, McKinsey and Company, **USA**, **Mr. V. Muthuswamy**, Manager, R&D Chemicals, Huntsman International Pvt. Ltd., **Mumbai**, **Prof. Deepti Gupta** Department of Textile Technology,

Officer, Madura Garments, **Bangalore** and Co-chaired by **Dr. S. Viju**, Associate Professor, Department of Textile Technology, PSG College of Technology focused on CoE on Nonwoven, Products Made of Slub, Injection and Core Yarn Attachments, About CoE on InduTech, Pine



Dr.J.C.Sakthivel Co-Chair presenting Memento to Chair **Dr.C.Ramesh Kumar**, Director, **Sardar Vallabhbhai Patel Institute of Textile Management, Cbe**

Apple Fibre:
Extraction and
Product
Developments for
Industrial
Applications by
Mr.Ankit Bhute,
Centre Head, DKTE
Society's Textile &
Engineering Institute,
Ichalkaranji,
Maharashtra, Mr.
J.M.Balaji Head-
Marketing, Lakshmi

Caipo Industries Limited, **Coimbatore**, **Dr. G. Thilagavathi** Professor and Head, Department of Textile Technology, PSG College of Technology, **Coimbatore**, respectively.

Thus the 6 different plenary sessions ended on the second day (27th August 2016) at 2:20 pm with 18 lectures.

Followed by the plenary sessions, first four parallel technical sessions were conducted from 2:30 pm to 3:30 pm and the second four parallel technical sessions were conducted from 3:45 pm to 5:00 pm. Thus the 8 technical sessions comprising of 40 selected papers were deliberated on the theme **Nonwovens for Technical Applications Conductive, Filtration and**

Acoustic Textiles, Textile Composites – Developments and Applications, Carbon Particles and Comfort Properties, Coated Textiles – Developments and Applications, Home Textiles and Functional Finishing, Textile Structures and Civil Applications, Textile



Mr. R. Ravichandran Co-Chair presenting Memento to Chair Mr. Rajanna L Gotipamul, Assistant Professor, DKTE Society's Textile & Engineering Institute, Ichalkaranji, Maharashtra

Structures for Effluent Treatments and Energy Efficient Processes by academicians and researchers across the country. The eight parallel technical sessions were chaired by **Dr.C.Ramesh Kumar**, Director, Sardar Vallabhbhai Patel Institute of Textile Management, Cbe; **Mr. Arputharaj**, Scientist, ICAR-Central Institute for Research on Cotton Technology, Mumbai; **Dr. J. Srinivasan**, Professor and Head, Dept. of Fashion Technology, KCT, Coimbatore; **Dr.Milind Koranne**, Head, Textile Engineering Department, The Maharaja Sayajirao University of Baroda, Vadodara; **Mr. Rajanna L Gotipamul**, Assistant Professor, DKTE Society's Textile & Engineering Institute, Ichalkaranji, Maharashtra; **Mr. Murugan Thenkondar**, Head - Sales and Marketing, South Asia; **Dr. K. Thangamani**, Professor, Dept. of Textile Technology, KCT, Coimbatore; **Mr. V. Muthuswamy**, Manager, R&D Chemicals, Huntsman International Pvt. Ltd., Mumbai, respectively.



Prof. Wolfgang Schrott, Hof University of Applied Sciences Germany sharing his view about the InduTech 2016 during the feedback session

Finally the concluding session of the conference was organized at 5:00 pm in which the conference summary was presented by **Dr.S.Periyasamy**, Assistant Professor, Department of Textile Technology, PSG College of Technology. Further the feedback

about the conference was received from the participants who expressed their satisfaction in participating in the conference in terms of knowledge gained through listening to plenary and technical sessions, their personal interactions with various experts and hospitality provided. They have suggested as an improvement for the next conference to organize it for 3 days so that they

have even more time to interact during the technical sessions and also during their personal meet with the experts. Subsequently certificates for the participants were distributed by,

Prof. Wolfgang Schrott, Hof University of Applied Sciences Germany, **Dr.Christopher**



Dr.Christopher Hurren, Institute for Frontier Materials Deakin University, Australia presenting certificate to one of the Technical Speakers

Hurren, Institute for Frontier Materials Deakin University, **Australia**, **Dr. Rajesh D.**

Anandjiwala, Chief
Researcher:

Nonwoven and
Composites Research
Group, Polymers and
Composites

Competence Area,
CSIR Materials
Science and

Manufacturing,

SOUTH AFRICA.



**Dr.Christopher Hurren, Institute for Frontier Materials Deakin University, Australia
presenting poster presentation certificates to students**

Finally vote of thanks was delivered by **Dr.M.Senthilkumar**, Associate Professor, Department of Textile Technology, PSG College of Technology. There were about 15 posters displayed by students for which best two poster awards were also presented as evaluated by **Prof. R. Alagirusamy**, Department of Textile Technology, Indian Institute of Technology Delhi, **New Delhi.**

EXHIBITION OF INDUSTRIAL TEXTILES PRODUCTS – Buyer Seller Meet

Highlight of the conference was an exhibition of Industrial textile products and machineries was also arranged in the college premises from 26th to 27th August 2016 to realize the potential in industrial textile sector. The exhibition was visited by all industry



Stall visit by Shri. Sanjay Chatrath, Chief Guest with Dr.R.Rudramoorthy, Principal, PSG Tech and Dr.G.Thilagavathi, Organizing Secretary, InduTech 2016

people, academicians, and entrepreneurs. The industrial textile product manufacturers as M/s. ELGI ULTRA INDUSTRIES LIMITED, M/s. VOLTAS LIMITED, M/s. SLIVERTEX ENGINEERS PVT. LTD, M/s. JACQUARD FABRICS INDIA PVT. LTD, M/s. COIR PLUS, M/s.MAG SOLVICS PVT. LTD, M/s.TTS INDIA INSTRUMENTS, M/s. PANALYTICAL INDIA, M/s. PSGTECHS COE INDUTECH, OFFICE OF THE TEXTILE COMMISSIONER, MUMBAI, MINISTRY OF TEXTILES, M/s.HORIBA, M/s.ATE, M/s. Aadinaath Home Tech & Auto tech and M/s.Midas Safety Products Pvt. Ltd. exhibited their products. This paved the way for interaction between the buyers and sellers and facilitated for new business opportunities in industrial textile arena. This has also given an understanding for our students on Industrial Textile Products. Further the conference proved to be an eye opener for entrepreneurs for venturing in various opportunities. Apart from organizing such events, the centre of excellence extends its service by providing projects for developing various industrial textile products for the interest of industry and also consultancy services for the industrial textile manufacturers.

327 Industrialists, Researchers, Academicians and Students from all over the globe participated in the conference.



Organizing Team Group Photo at the End of the InduTech 2016 Conference along with Part of the Delegates



InduTech 2016 Conference Plenary Speakers along with Chief Guest, Principal, PSG Tech and Dr.G.Thilagavathi, Organizing Secretary, InduTech 2016



Arial View of the August Members Arriving for the Inaugural Function of InduTech 2016 Conference



Prayer During Inaugural Session of InduTech 2016 Conference



Inaugural Session Part of the Audience View of InduTech 2016 Conference



Part of the Audience View of InduTech 2016 Conference During Plenary Sessions



Delegates at the Lunch Session of InduTech 2016 Conference



Part of Plenary Speakers and Organizing Team Group Photo at the End of the first day of InduTech 2016 Conference



Tech music performance at the end of the first day technical sessions of InduTech 2016 conference



Major sponsor of the conference was Office of the Textile Commissioner, Ministry of Textiles, Govt. of India.