



UNIVERSITY OF LEEDS

# THE 91<sup>ST</sup> TEXTILE INSTITUTE WORLD CONFERENCE PROGRAMME

**23 – 26 JULY 2018, LEEDS, UK:**  
INTEGRATING DESIGN WITH  
SUSTAINABLE TECHNOLOGY



TIWC 2018  
23 - 26 July 2018 | Leeds, UK







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# CONFERENCE ORGANISERS

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**TIWC 2018**

23 - 26 July 2018 | Leeds, UK



**UNIVERSITY OF LEEDS**

# WORLD PRESIDENT'S WELCOME

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As world President of The Textile Institute I welcome you to The 91<sup>st</sup> World Conference (TIWC) 2018, which this year is being hosted by the School of Design at the University of Leeds.

“Integrating Design with Sustainable Technology” it’s a subject matter that fascinates me, and will be integral to the future of our businesses.

The theme has evolved out of a recognition that there are clear synergies when design and sustainable technology are effectively integrated to produce commercial solutions for better aesthetics and functionality.

The Textile Institute represents the bringing together of researchers, engineers and practitioners in the field of fashion and textile and endorses future developments and exploration to ensure that all promising theories and original research are fully realised and are applied.

This is our opportunity to have better conversations on a global level, network and share knowledge. Seek out new partnerships and develop friendships and collaborations.

I’m looking forward to meeting members old and new from around the world and experiencing my first World conference.

**Wishing you all an incredible and successful conference  
and looking forward to meeting you,**



**Katie Greenyer**

World President  
The Textile Institute



# THE TEXTILE INSTITUTE WORLD CONFERENCE 2018

## SCHOOL OF DESIGN, UNIVERSITY OF LEEDS

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### WELCOME!

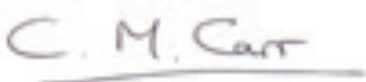
It is a great honour to be hosting The 91<sup>st</sup> Textile Institute World Conference and we hope that your time at Leeds will be educational, illuminating and fun.

The conference provides an opportunity to meet up with old friends, make new friends and discuss “textiles” in its broadest sense. Our industry is one of the great global economic powerhouses which embraces the best in design, technology and business management. These combined facets within the final products bring a diversity of thought and expertise that successfully engages the consumer and creates jobs and wealth across the globe.

We are here at Leeds this week to celebrate that latest thinking within textiles and to listen and talk to people who shape our industry. Like the industry Textiles at Leeds has always looked to refresh itself and evolve and over the past few years the School of Design has invested in new facilities. Hopefully you will be encouraged by the changes and reassured that the long tradition of textiles education and research at Leeds is still thriving. Our alumni is global and we look to be as relevant today as we were over 100 years ago.

In conclusion welcome once again to The Textile Institute World Conference, the University of Leeds and enjoy the “Textiles” experience at the School of Design. All the best.

Regards,

A handwritten signature in blue ink that reads "C. M. Carr". The signature is written in a cursive style and is underlined with a single horizontal line.

**Chris Carr**

Conference Chairman



# SPONSORS

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Thank you to all of our sponsors who have made this year's conference possible.

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## MEDIA PARTNERS

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**Asian Textile Journal**



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## COMMITTEE

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### Conference Chair:

Prof Chris Carr, University of Leeds;

### Organising Committee:

Dr Vien Cheung, University of Leeds;

Dr Ningtao Mao, University of Leeds;

Dr Peter Rhodes, University of Leeds;

Prof Steve Russell, University of Leeds;

Jianzhong Shao, Zhejiang Sci-Tech University, China;

Dr Mark Sumner, University of Leeds.

### The TI Events Committee:

Prof Subhash Anand MBE, University of Bolton, UK

Bill Bohm, The Textile Institute, UK

Dr Xiaogang Chen, University of Manchester, UK

Charlotte Haggarty, The Textile Institute, UK

Prof Mervyn Davies, The Textile Institute, UK

Stephanie Dick, The Textile Institute, UK

Prof Derek McKelvey, The Textile Institute, UK

Prof Xungai Wang, Australian Future Fibres

Research and Innovation Centre, Australia

Assoc Prof. Malgorzata Zimniewska, Institute of

Natural Fibres & Medicinal Plants, Poland

### Programme Committee:

Dr Richard Blackburn, University of Leeds, UK;

Prof Tom Cassidy, University of Leeds, UK;

Tilak Dias, Nottingham Trent University, UK;

David Farrar, Xiros, UK;

Hugh Gong, University of Manchester, UK;

Prof Parik Goswami, University of Huddersfield, UK;

Prof Michael Hann, University of Leeds, UK;

Amanda McLaren, James Heal Ltd., UK;

Brian McCarthy, Knowledge Transfer Network, UK;

Prof Steve Russell, University of Leeds, UK;

Dr Pammi Sinha, University of Leeds, UK;

Dr Jane Scott, University of Leeds, UK;

Dr Muhammad Tausif, University of Leeds, UK;

Dr Lindsey Waterton Taylor, University of Leeds, UK;



# PROGRAMME

<b>Tuesday 24 July</b>		
<b>08:00</b>	<b>Registration - Parkinson Court</b>	
<b>09:00 - 09:15</b>	<b>Welcome Prof. Chris Carr, University of Leeds - Great Hall</b>	
<b>09:15 - 09:45</b>	<b>Conference Opening: Katie Greenyer, Pentland, The Textile Institute World President, Future proofing our Textile Institute - Great Hall</b>	
<b>09:45- 10:15</b>	<b>Keynote Prof. Jintu Fan, Cornell University, Recent Advances In Smart and Multi-Functional Fibrous Materials and Clothing - Great Hall</b>	
<b>10:15 - 10:45</b>	<b>Keynote Nick Chiarelli, Foresight Factory, Integrating design with sustainable technology - Great Hall</b>	
<b>10:45 - 11:15</b>	<b>Break - Parkinson Court</b>	
<b>11:15 - 12:30</b>	<b>Parallel Session 1</b>	
	<b>Innovations For Natural Fibres MS.LG 10</b>	<b>Functional Textiles MS.LG 15</b>
	158. Factors affecting the durability of lightweight merino activewear fabrics Dr. Stewart Collie, AgResearch, New Zealand	313. Development of an active compression system for treating the venous disease in lower human limb Gayani Nandasiri, Nottingham Trent University, UK
	145. Engineered Material from Natural Fibre for Interior Design Applications Dr. Abu Sayem, Manchester Metropolitan University, UK	296. Self-assembled Reduced Graphene / Few-Walled Carbon Nanotube Hybrid Fibers as Binder-free Electrodes for Flexible Supercapacitors Dr. Yunming Jia, Zhejiang Sci-Tech University, China
	329. Retting Parameters and Textile Properties of Brassica napus Fibre Ikra Shuvo, University of Manitoba, Canada	426. New generation of functionalized textiles: to protect and enhance human capabilities Ana Carreira, Devan Chemicals, Belgium
	<b>Technical Textiles MS.LG 17</b>	<b>Design, Fashion and Retail MS.LG 19</b>
	<b>SK*. High Value Manufacturing with Textiles, crimped or non-crimped</b> Prof. Prasad Potluri, University of Manchester, UK	<b>SK. Textiles in Transition: Are you Ready for Industry 4.0?</b> Prof. Omera Khan, University of London, UK
	290. Blue Light Induced High-performance Flame-retardant Finishing for Cotton Fabric Guangdong Sun, Zhejiang Sci-Tech University, China	381. Eco-system services and the circular economy for textiles Dr. David Tyler, Manchester Metropolitan University, UK
	161. Sustainable Fashion Textiles Research on Innovative 3D Spacer Fabrics Comprising Shape Memory Alloy Wire for Pressure Reduction and Redistribution Shuk-Fan Tong , Hong Kong Polytechnic University, Hong Kong	288. Exploring secured traceability systems for implementation in textile and clothing supply chain Tarun Agrawal, University of Borås, Sweden
<b>12:30 - 13:30</b>	<b>Lunch &amp; Conference Exhibition - Parkinson Court</b>	
<b>13:30 - 14:00</b>	<b>Peter Dinsdale Memorial Lecture, David Mallinson, John Lewis, Reinventing Britain's favourite department store - Rupert Beckett Lecture Theatre</b>	
<b>14:00 - 15:30</b>	<b>Parallel Session 2</b>	
	<b>Innovations for Natural Fibres MS.LG 10</b>	<b>Functional Textiles MS.LG 15</b>
	392. A new generation of textile fibre from canola biomass and the impact of cultivar on fibre quality Ikra Shuvo, University of Manitoba, Canada	303. The influence of structural variation for resistance of conductive knitted fabrics Dr. Su Liu, Donghua University, China
	353. Efficacy Of Anti-Perspiration Finish Using Eco-Friendly Herbal Extracts On Silk Filaments Felicia Sunil, The Gandhigram Rural Institute - Deemed University, India	264. Optical sensing textile yarn for wearable electronics Achala Satharasinghe, Nottingham Trent University, UK
	422. An innovative cellulosic fibers- typha domingensis naturally growing on swampy lands Dr. Ritu Pandey, Chandra Shekhar Azad University of Agriculture & Technology, India	47. Smart Diaper for Healthcare Management Dr. Chi-Leung Patrick Hui, The Hong Kong Polytechnic University, Hong Kong
	222. Biobased compostable gloves from sustainable material and prediction of their thermal properties Muhammad Maqsood, Maastricht University, Netherlands	291. Changing our ways: exploring leno weave as a tool to understand erosion Nicola Redmore, University of Huddersfield, UK

# PROGRAMME

Tuesday 24 July		
	Technical Textiles MS.LG 17	Design Fashion and Retail MS.LG 19
	162. Evaluation of Thermal Properties of Functional Garment for Orthopedic Bracing Treatment Dr. Joanne Yip, Hong Kong Polytechnic University, Hong Kong	<b>SK.</b> Apparel Co-design Based on the Sensory Requirements of the Consumers Prof. Yan Chen, Soochow University, China
	349. Optimization of fabric structure for favourable effect of shear thickening fluid impregnation on impact resistance performance Sanchi Arora, Indian Institute of Technology, Delhi, India	187. Programming Biomimetic Knitwear Using Botanical Models of Differential Growth Dr. Jane Scott, University of Leeds, UK
	164. Artificial blood vessel using silk nanofibers Dr. Yoshihiro Yamashita, Osaka Seikei College, Japan	440. Case study on new products and materials from textile recycling and reuse Regis Puppim, University of Minho, Portugal
	62. Development of Regenerated Silk Fibres and Textiles for Medical Device Applications Dr. Chris Agboh, Xiros, UK	59. Comparative study of calculated and actual dimensions in shaped weft knitwear Prof. Jess Power, Staffordshire University, UK Dr. Kevin Almond, University of Leeds, UK
<b>15:30 - 16:00</b>	<b>Break - Parkinson Court</b>	
	<b>Parallel Session 3</b>	
	<b>Innovations for Natural Fibres MS.LG 10</b>	<b>Functional Textiles MS.LG 15</b>
	110. Investigation of bark cloth for its surface texture and durability for apparel applications Dr. Praburaj Venkataraman, Manchester Metropolitan University, UK	312. Wearable Technology: Present and Future Sophie Wilson, University of Otago, New Zealand
	433. Eco Friendly Coloration of Polyester Fabric Using Green Synthesis of Silver Nano Particle K. M. Faridul Hasan, Wuhan Textile University, China	260. Novel techniques to analyse the water vapor permeability of car seat Adnan Mazari, Technical University of Liberec, Czech Republic
	155. Card aerodynamics - detailing the design of the new possibilities Dr. Debasish Banerjee, Blackstone Synergy Consulting Group Limited, Kenya	88. Fabrication and characterization of exfoliated chitosan-gelatin- montmorillonite nanocomposite nanofibers Dr. Sima Habibi, Islamic Azad University, Iran
	<b>Technical Textiles 1 MS.LG 17</b>	<b>Technical Textiles 2 MS.LG 16</b>
	191. Textiles in connective tissue repair; a review of laboratory and in vivo data over the past three decades Dr. Bahaa Seedhom, Xiros, UK	404. Synthesis of electrospun composite nanofibres doped with stimuli-responsive molecular switches for designing advanced sustainable smart textiles for conventional and high-tech applications Dr. Shah Billah, University of Durham, UK
<b>16:00 - 17:15</b>	50. Textile technical integration of shape memory alloys into reinforcing fabrics for the development of adaptive pleated fiber-reinforced plastics Moniruddoza Ashir, Technische Universität Dresden, Germany	160. Finite Element Approach for Modelling Non-Invasive Flexible Orthopaedic Device on Scoliotic Patient Wing-Yu Chan, Hong Kong Polytechnic University, Hong Kong
	177. Tubular braids with tuneable Poisson's ratio Ning Jiang, Hong Kong Polytechnic University, Hong Kong	126. Challenges arising from test methods for foot coverings Prof. Raechel Laing, University of Otago, New Zealand
	<b>Design Fashion and Retail MS.LG 19</b>	
	<b>SK.</b> The role of CTES in promoting the commercial and technical global strategy for the Chinese Textile industry Fu Guangwei, China Textile Engineering Society, China	
	373. Developing creative industries in Sri Lanka: The case of hand loom textiles Carolyn Downs, Lancaster University, UK	
	218. The development of methodologies for designers engaging with digital colour inkjet printing in textile design Becky Gooby, University of the West of England, UK	
<b>17:30 - 19:30</b>	<b>Poster Session, Light Buffet and Refreshments - Parkinson Court</b>	



# PROGRAMME

<b>Wednesday 25 July</b>		
<b>08:00</b>	<b>Registration - Parkinson Court</b>	
<b>09:00 - 09:30</b>	<b>Keynote Prof. John Xin, Hong Kong Polytechnic University</b> , Development of Bionic Structural Colors for Sustainable Textile Applications - Rupert Beckett Lecture Theatre	
<b>09:30 - 10:00</b>	<b>Keynote Prof. David Hinks, North Carolina State University</b> , Catalyzing a Resurgent Textiles Industry via Community College - Industry - University Partnerships - Rupert Beckett Lecture Theatre	
<b>10:00 - 10:30</b>	<b>Keynote Prof. Behnam Pourdeyhimi, North Carolina State University</b> , Nonwovens, the Other Textiles? Past, Current and Future Opportunities - Rupert Beckett Lecture Theatre	
<b>10:30 - 11:00</b>	<b>Break - Parkinson Court</b>	
<b>11:00 - 12:30</b>	<b>Parallel Session 4</b>	
	<b>Innovations for Natural Fibres MS.LG 10</b>	<b>Functional Textiles 1 MS.LG 15</b>
	169. Sustainable Development of Hemp Industry: Lithuanian Review Dr. Vaida Jonaitiene, Kaunas University of Technology, Lithuania	330. Surface modification of carbon fibres with graphene oxide for interface improvement in fibre-reinforced composites Lei Zeng, University of Manchester, UK
	75. The study of reactive dye compatibility matrix of Levafix CA reactive dyes for dyeing of cotton fiber in solvent-assisted PEG-based reverse micelle dyeing system Yiu Lun Tang, Hong Kong Polytechnic University, Hong Kong	331. Selective disassembly of fibre-reinforced rotational moulded composites by plasma functionalisation Dr. Muhammad Tausif, University of Leeds, UK
	342. Characterization of Bamboo composites Underscoring Node Effects Rashed Al Mizan, BGMEA University of Fashion & Technology, Bangladesh	285. Developing conductive fabric using bacterial cellulose-polyaniline composite Hyunjin Kim, Sookmyung Women's University, Republic of Korea
	425. Inherent antioxidant and antibiotic activity of lignocellulosic fibers predisposing them to functional clothing purpose Prof. Malgorzata Zimniewska, Institute of Natural Fibers and Medicinal Plants, Poland	<b>SK. Promotion and Practice of International Standards in Leading Textile Enterprises: the SUNSHINE Experience</b> Yong Xu, Jiangsu Sunshine Group, China
	<b>Functional Textiles 2 MS.LG 16</b>	<b>Design Fashion &amp; Retail MS.LG 19</b>
	335. Surface Modification of Carbon Fibres for Interface Improvement in Textile Composites Jiawen Qiu, University of Manchester, UK	259. Knitted Material in Movement Dr. Mandy Smith, Auckland University of Technology, New Zealand
	136. Development of electrochemical polyaniline/BC composite using laccase catalysis Euijin Shim, Sookmyung Women's University, Republic of Korea	30. SOOT – A study of emotionally design and textile colourants Neha Rao, Chelsea College of Art and Design, UK
	104. Research and improvement of the fuzzing and pilling performance of fabric made from polyester interlaced yarn. MD Rokibul Hasan, Wuhan Textile University, China	418. The sharing economy: Fashion business enterprise cases Dr. Eunsuk Hur, University of Leeds, UK
<b>12:30 - 13:30</b>	<b>Lunch - Parkinson Court</b>	
	<b>13:30 - 14:00</b> <b>Keynote Prof. Jianzhong Shao, Zhejiang Sci-Tech University</b> , Fabrication of tough photonic crystals for structural colouration of textiles - Rupert Beckett Lecture Theatre	
<b>14:00 - 15:15</b>	<b>Parallel Session 5</b>	
	<b>Innovations for Natural Fibres MS.LG 10</b>	<b>Functional Textiles MS.LG 15</b>
	71. Dyeing of EDTA modified jute with reactive dyes in absence of salt Dr. Sumantra Bakshi, National Institute of Fashion Technology, Kolkata, India	95. Designing the future of the medical textile sector Holly Morris, University of Otago, New Zealand
<b>15:15 - 16:30</b>	435. Extraction of anthocyanins from blackcurrant (Ribes nigrum L.) fruit waste and application as renewable textile dyes Dr. Richard Blackburn, University of Leeds, UK	206. Design and Construction of Integrated Solar Textile Fabrics Dr. Robert Mather, Power Textiles Limited, UK

# PROGRAMME

Wednesday 25 July		
	<p>143. Enzymatic coloration of bacterial cellulose via laccase-catalyzed polymerization of phenol compounds Ji Eun Song, Sookmyung Women's University, Republic of Korea</p> <p><b>Protective and Barrier Textiles MS.LG 17</b></p> <p>61. Development of a novel wound dressing material based on a blend of Psyllium and Alginate polysaccharides Dr. Chris Agboh, Xiros, UK</p> <p>245. Effect of process parameters on viscoelastic properties of energy absorbing materials Dr. Yong Kim, University of Massachusetts - Dartmouth, USA</p> <p>253. Preparation of PTFE Foam Coating Composite Filter with High Filtration Efficiency Prof. Hong Wang, Donghua University, China</p>	<p>99. The influence of bra features on wearing comfort and breast support of bras Dr. Kit-Lun Yick, Hong Kong Polytechnic University, Hong Kong</p> <p><b>Design, Fashion &amp; Retail MS.LG 19</b></p> <p>212. The Roles of Digital Print and Specialist Design &amp; Colour Management Software in Sustainable Textile Printing Duncan Ross, AVA CAD CAM, UK</p> <p>194. Fashion education: toybox or toolbox Anastasia Vouyouka, SITAM-AB Fashion Studies, Greece</p> <p>442. Jute: its journey in the apparel sector Ms. Paridhi Dhanuka</p>
<b>15:15 - 15:45</b>	<b>Break - Parkinson Court</b>	
	<b>Parallel Session 6</b>	
	<b>Innovations for Natural Fibres MS.LG 10</b>	<b>Functional Textiles 1 MS.LG 15</b>
	<p>107. Human Hair Colouring by Utilising Chemical Oxidation of Bio-Catechols Dr. Takanori Matsubara, College of Industrial Technology, Japan</p> <p>111. Dyeing of cotton yarn with natural extracts from lac, marigold flower, neem tree bark and Burma padauk tree bark Dr. Monthon Nakpathom, National Metal and Materials Technology Center, Thailand</p> <p>439. Optimisation of Colour Fibre-Blend Systems Prof. Stephen Westland, University of Leeds, UK Dr. Caroline Hemingray, Leeds Beckett University, UK</p>	<p>91. Technical textiles sustainable solutions to directly reduce global landfill waste of paint exhaust filtration in the automotive industry. Dr. Jane Howarth, University of Bolton, UK</p> <p>214. The conductivity mechanism of polyacrylonitrile fibers doped in situ with silver nanoparticles Olga Rac-Rumijowska, Wrocław University of Science and Technology, Poland</p> <p>352. Heat and moisture transport properties of hollow/microporous yarn fabrics Dr. Devanand Uttam, GZSCCET Bathinda, India</p>
<b>15:45 - 17:15</b>	<p>92. Dyeing properties improvement of weld on corona discharge treated wool fabric Dr. Aazam Talebian, Islamic Azad University, Iran</p> <p><b>Functional Textiles 2 MS.LG 16</b></p> <p>363. Facile fabrication of amorphous photonic structures with non-iridescent and high-stable structural color on textile substrates Yichen Li, Zhejiang Sci-Tech University, China</p> <p>350. Synthesis of ethyl cellulose microcapsules with immortelle essential oil Prof. Sandra Bischof, University of Zagreb, Croatia</p> <p>309. Optimization of fire resistant and comfort properties of knitted fabrics Dr. Hafsa Jamshaid, National Textile University, Pakistan</p> <p>346. Fibre-based chemical sensors Dr. Carol Crean, University of Surrey, UK</p>	<p>441. Delivering the Comfort and Performance that Customers Demand John Crocker, SDL Atlas Textile Testing Solutions, USA</p> <p><b>Design, Fashion &amp; Retail MS.LG 19</b></p> <p>112. Image analysis as a basis to the design of wheelchair rugby sportswear Dr. Sara Braganca, Southampton Solent University, UK</p> <p>275. Assessing the Impact of Sharing Textile Crafts Skills between UK and Indian Universities Dr. Julie King, University of Northampton, UK</p> <p>226. The Marketing of Culture: Luxury Brands' Art Appropriation in China Dr. WenYing Claire Shih, Hsuan Chuang University, Taiwan</p> <p>223. Chaîne Operatoire: Indonesian Stitch Resist Dyeing Technique Bintan Titisari, University of Leeds, UK</p>
<b>18:30</b>	<b>Coaches Depart to Conference Dinner Royal Armouries Leeds</b>	



# PROGRAMME

Thursday 26 July		
08:00	Registration - Parkinson Court	
09:00 - 09:30	Keynote Beatrix Ong MBE, A Step into a Responsible Future... - Rupert Beckett Lecture Theatre	
09:30 - 10:00	Keynote Prof. Stephen Russell, University of Leeds, Nonwovens Fit for the Next Regeneration - Rupert Beckett Lecture Theatre	
10:00 - 10:30	Keynote Prof. Calvin Wong, Hong Kong Polytechnic University, How Artificial Intelligence Reshapes Online Shopping Experience: Challenges and Opportunities? - Rupert Beckett Lecture Theatre	
10:30 - 11:00	Break - Parkinson Court	
11:00 - 12:30	Parallel Session 7	
	Textile Processes MS.LG 10	Functional Textiles MS.LG 15
	398. Enzyme technology for sustainable textile coloration and surface pattern Prof. Jinsong Shen, De Montfort University, UK	94. FE simulation of the interaction between breast and daily bra during wearing Yue Sun, Hong Kong Polytechnic University, Hong Kong
	297. Study on a water-saving and salt-free reactive dyeing of cotton fabrics in non-aqueous medium of liquid paraffin system Yuan An, Zhejiang Sci-Tech University, China	93. Analysis of bra design features for older women Shichen Zhang, Hong Kong Polytechnic University, Hong Kong
	193. Introduction of multi-dyes into Metal-Organic Frameworks materials for highly efficient photodegradation of ultra-stubborn dyes under visible-light irradiation Dr. Qing Li, Xi'an Polytechnic University, China	209. Selection and Characterisation of Warp Knitted Textile Materials used for Reflector Antennas on Communications Satellites Isa Bettermann, RWTH Aachen University, Germany
	270. Spinning of high hollow pet filaments and their physical property according to elution conditions Dr. Ji Man Kang, Korea Textile Development institute, Republic of Korea	181. Effect Of Bicomponent Fibers On Acoustical Properties of Spunmelt Three-layered Nonwovens Dr. Dilan Canan Celikel, Gaziantep University, Turkey
	Colour and Education MS.LG 16	Design, Fashion & Retail MS.LG 19
	SK. Importance of Colour for Textile and Clothing Prof. Tetsuya Sato, Kyoto Institute of Technology, Japan	198. The Deployment of Korean Cultural Elements in Printed Textiles Jihye Park, University of Leeds, UK
	317. The impact of LED lighting for textile industry Prof. Ronnier Luo, Zhejiang University, China	41. Technically Craft: Interdisciplinary Design Practice for Interactive Textiles Anne Toomey, Royal College of Art, UK
	258. Modelling of the yarn-fabric spectral reflectance for solid yarn-dyed fabric based on hyper-spectral imaging system Prof. Zhang Jianxin, Zhejiang Sci-Tech University, China	405. Archiving futures: Cloth stories participatory methodologies and practices, can records and archives speak for themselves Rose Sinclair, Goldsmiths, University of London, UK
	45. Virtual Learning Environments for future textile education Andrew Filarowski, Society of Dyers and Colourists, UK	146. Analysis of the Sustainable Development Potential of As You Like It Costume Design Working Module Prof. Yi-meei Wang, National Taiwan University, Taiwan
12:30 - 13:30	Lunch - Parkinson Court	
13:30 - 14:45	Parallel Session 8	
	Textile Processes MS.LG 10	Functional Textiles MS.LG 15
	377. Discriminatory Mechanical and Sensory Properties for the Study of Fabric Finishing in the Laundry Cycle Christopher Boardman, Unilever, UK	267. Study the Comfort properties of Conductive fabrics made by nanotechnology Azam Ali, Technical University of Liberec, Czech Republic
	324. Effects of position and tension of nylon filament on properties of wool sirofil yarns Dr. Tao Hua, Hong Kong Polytechnic University, Hong Kong	74. Evaluation of stress distribution on body exerted by compression sports bras by using finite-element sub-models of body and sports bra Ruixin Liang, Hong Kong Polytechnic University, Hong Kong

# PROGRAMME

Thursday 26 July		
	326. Influence of carding and punching parameters on fibre orientation in carded web and properties of needle punch nonwoven Rupayan Roy, Indian Institute of Technology Delhi, India	436. Investigation into the Wet Abrasion of Cotton Fabric and the Effect of Anti-Fibrillation Treatments Prof. Chris Carr, University of Leeds, UK
	<b>Testing and Education MS.LG 16</b>	<b>Design, Fashion &amp; Retail MS.LG 19</b>
	437. Image-based Assessment of Fabric Pilling Dr. Peter A. Rhodes, University of Leeds, UK	319. Image creation on uniform jacquard textile by laser ablation and multi-layered friction-spinning technologies Dr. Frankie Ng, Hong Kong Polytechnic University, Hong Kong
	365. Methods for Characterising Fabric Deformations Dr. Ningtao Mao, University of Leeds, UK	131. Radical change for novice textile designers in accelerated CAD learning and application Dr. Phil Henry, University of Leeds, UK
	114. Outlines and Outliers: A mix-method study of garment silhouette and ageing body shape Minzhi Zhang, University of Manchester, UK	397. Made in Macclesfield: community engagement through contemporary textile crafts Francesca Lockett Richardson, University of Huddersfield, UK
<b>14:45 - 15:15</b>	<b>Break - Parkinson Court</b>	
<b>15:15 - 15:45</b>	<b>Closing Ceremony - Rupert Beckett Lecture Theatre</b>	
<b>16:00 - 21:30</b>	<b>School of Design Tours and Entertainment</b>	

\*SK Denotes Session Keynote



# CONFERENCE POSTER LIST

## Advanced Fibres and Materials Manufacture

ID	Title
66	<b>A study of electrical percolation threshold about carbon black in polymer composites</b> Dr Sang Young Yeo, Korea Institute of Industrial Technology, Republic of Korea
88	<b>Fabrication and characterization of exfoliated chitosan-gelatin- montmorillonite nanocomposite nanofibers</b> Dr Sima Habibi, Islamic Azad University, Yadgare Imam Khomeini (RAH) Shahr-e-Rey Branch, Iran
106	<b>Investigation of thermal conductivity of 3D PET knits with different bio-ceramic additives</b> Dr Vitalija Rubeziene, Center for Physical Sciences and Technology, Lithuania
181	<b>Effect of bicomponent fibers on acoustical properties of spunmelt three-layered nonwovens</b> Dr Dilan Canan Celikel, Gaziantep University, Turkey
240	<b>The application of auxetic material for protective sports apparel</b> Charlotte Moroney, Manchester Metropolitan University, UK
305	<b>On-demand activation of an antimicrobial biomaterial for oral soft tissue regeneration</b> Amy Smith, University of Leeds, UK
367	<b>In-situ synthesis of nano silver inside chitosan nano fibrous web and its deposition on polyester nonwoven structure for water purification</b> Rahul Gadkari, Indian Institute of Technology Delhi, India
407	<b>Polyurethane/graphene nanocomposite based weather resistant and gas barrier films and laminated textiles for aerostat application</b> Mr Bapan Adak, Indian Institute of Technology Delhi, India

## Business

ID	Title
121	<b>A model for adopting e-learning tools within the creative arts: a multiple stakeholder analysis</b> Ryan Wilkinson, University of Huddersfield, UK
189	<b>Environmental reporting: the way forward</b> Dr Christina Wong, The Hong Kong Polytechnic University, Hong Kong
265	<b>"How the competitiveness &amp; sustainable development is reality through livelihood development &amp; income increment in textiles MSMEs by cluster based approach?- an Indian case study"</b> Dr Saumen Mapdar, Ministry of Textiles, India
302	<b>OEM - manufacturer matrix for reviving the financial fortunes of the textile value chain</b> Dr Debasish Banerjee, Blackstone Synergy Consulting Group Limited, Kenya

## Characterisation and Instrumentation

ID	Title
87	<b>Designing parameters for prosthetic grafts: analyzing the effects of stress and alcohol on medical grade polyester</b> Dr Mashiur Rahman, University of Manitoba, Canada
384	<b>The extent of use of scanning electron microscopy in textile research and its reproducibility</b> Michael Brookes, University of Leeds, UK
419	<b>Realising nonwoven textiles as acoustic absorbents</b> Neha Sharma, University of Salford, UK

# CONFERENCE POSTER LIST

## Clothing

ID	Title
243	<b>Assessment of carbon emission in garment sewing production process</b> Xujing Zhang, Soochow University, China
248	<b>Palestinian cultural heritage, symbolic costumes and textile designs</b> Beissan Arafat, Manchester Metropolitan University, UK
360	<b>Employers' perception of achieved competency delivered by trainers in preparing graduates for productive careers in textile/clothing industry in a developing country; Sri Lanka in perspective</b> Prof Rohana Kuruppu, RMIT University/Brandix College of Clothing Technology, Sri Lanka
376	<b>Healthcare solutions; the role of wearable textiles</b> Andrea Izquierdo Ruiz, University of Manchester, UK
431	<b>Thermal and Tactile Comfort of Nanofilament Fabric</b> Musaddaq Azeem, Technical University of Liberec, Czech Republic

## Colouration

ID	Title
92	<b>Dyeing properties improvement of weld on corona discharge treated wool fabric</b> Dr Aazam Talebian, Islamic Azad University, Iran Dr Aazam Talebian
109	<b>Novel silk colouration by utilising metal chelation, oxidation or co-pigmentation of natural dyes</b> Asuka Sato, College of Industrial Technology, Japan
196	<b>Colour perception of clothes images: comparison between Thai and Japanese data</b> Dr Saori Kitaguchi, Kyoto Institute of Technology, Japan
251	<b>Study on properties of full deacetylated xanthan and its application in reactive printing</b> Dr Lili Wang, Zhejiang Sci-Tech University, China
379	<b>Improvement of hydrophilicity and water/oil repellency of polyester fabrics</b> Dr Burcu Yılmaz Şahinbaşkan, Marmara University Turkey
338	<b>Identification of a screen print approach for the application of multi-colour and pattern changing photochromic effects</b> Dilusha Rajapakse, Birmingham City University, UK
390	<b>In-situ synthesis of silver nanoparticles@linen via green approach using orange peel extract biomolecules as natural reductants</b> Dr Shahid Ul Islam, Birmingham City University, United Kingdom

## Design & Fashion

ID	Title
192	<b>Mechanical properties of Japanese and Scottish tweed fabrics</b> Prof Machiko Murakami, Gifu City Women's College, Japan
255	<b>A study of microbiological patterns applied in traditional wall-hanging designs</b> Yajie Gao, University of Manchester, UK
257	<b>Fast, lean and green fashion; integrating design with sustainability</b> Caroline Gilbey, Ravensbourne, UK
281	<b>The ultimate bag for life</b> Laura Camerer Cuss, Stitchsmith, UK
284	<b>Exploring indigenous West African fabric design in the context of contemporary global commercial production</b> Richard Acquaye, University of Southampton, UK



# CONFERENCE POSTER LIST

## Design & Fashion

ID	Title
<b>321</b>	<b>Innovative light-emitting imaging on fabrics integrated with polymer optical fibre using laser micromachining technology</b> Dr Frankie Ng, The Hong Kong Polytechnic University, Hong Kong
<b>328</b>	<b>How can industry and technologists utilise the unique craft knowledge of weavers?</b> Sophie Zajicek, University of the West of England, UK
<b>395</b>	<b>A systematic review of zero waste fashion construction techniques</b> Dr Hye-Won Lim, Birmingham City University, UK

## Sustainability

ID	Title
<b>90</b>	<b>Sustainable competitiveness in the urbanization economies of slow relational fashion networks in Taiwan</b> Dr WenYing, Claire Shih, Hsuan Chuang University, Taiwan
<b>169</b>	<b>Sustainable development of hemp industry: Lithuanian review</b> Dr Vaida Jonaitiene, Kaunas University of Technology, Lithuania
<b>193</b>	<b>Introduction of multi-dyes into metal-organic frameworks materials for highly efficient photodegradation of ultra-stubborn dyes under visible-light irradiation</b> Dr Qing Li, Xi'an Polytechnic University, China
<b>232</b>	<b>Development of nonwoven air filter for petrol and diesel engines</b> Pranil Vora, D.K.T.E'S Textile & Engineering Institute, India
<b>340</b>	<b>Introducing "Scoby" textiles to teens</b> Gracie Matthews, St Cuthberts College, New Zealand
<b>343</b>	<b>A study on antimicrobial efficiency of croton bonplandianum stems sap on cotton fabric</b> Goutam Bar, National Institute of Fashion Technology, Bhubaneswar, India
<b>350</b>	<b>Application of ethyl cellulose microcapsules with Helichrysum italicum essential oil onto modal and cotton fabric</b> Prof Sandra Bischof, University of Zagreb, Croatia
<b>366</b>	<b>From responsive design to sustainable systems: digital laser processing across the textile production cycle</b> Dr Laura Morgan, Loughborough University, UK
<b>374</b>	<b>Characterization of bamboo fibers underscoring node effects</b> Irfan Iqbal, BG University, Bangladesh
<b>382</b>	<b>Study on key problems and their features towards an industrial level of fashion remanufacturing</b> Biruk Semu, University of Borås, Sweden
<b>406</b>	<b>Investigation into the development of a durable and "degradable" binder for the inkjet printing of cotton</b> Xenia Mutter, University of Leeds, UK

## Textile Manufacturing

ID	Title
<b>55</b>	<b>Cotton yarn production process parameters optimization</b> Zeeshan Mohammad Ali, Baluchistan University of Information Technology engineering & management sciences, Quetta, Pakistan
<b>76</b>	<b>Effect of yarn input tension and stitch cam setting on the dimensional parameters of circular knitted fabrics using ultrasonic technique</b> Dr Sandip Mukherjee, National Institute of Fashion Technology, Kolkata, India
<b>104</b>	<b>Research and improvement of the fuzzing and pilling performance of fabric made from polyester interlaced yarn.</b> MD Rokibul Hasan, Wuhan Textile University, China

# CONFERENCE POSTER LIST

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## Textile Manufacturing

ID	Title
108	<b>Significance of thermal shrinkage of heat-set polyester plain knitted fabric panels subjected to different thermal based processes</b> H.A. Ayomi Enoka Perera, University of Moratuwa, Sri Lanka
170	<b>Laccase immobilization onto plasma treated polyethylene/polypropylene nonwoven for dye decolorization filter bag media</b> Prof. So Hee Lee, Gyeongsang National University, Republic of Korea
256	<b>Relating energy usage to fabric properties in the hydroentanglement process</b> Dr Doice Moyo, Cape Peninsula University of Technology, South Africa
263	<b>Effects of ozone washing treatment on the structure and mechanical properties of polyolefin elastic fibers</b> Ms Gao Ke, Wuhan Textile University, China
270	<b>Spinning of high hollow pet filaments and their physical property according to elution conditions</b> Dr Ji Man Kang, Korea Textile Development Institute, Republic of Korea
295	<b>Effect of loop structures on compression, friction and abrasion resistance of warp-knitted spacer fabrics</b> Dr Yanping Liu, Donghua University, China
314	<b>Determine the shear rigidity modulus for warp knitted non-crimp fabrics by picture frame test</b> Dr Jinhua Jiang, Donghua University, China
315	<b>Compression and permeability of fiber reinforced material in VIMP</b> Prof Nanliang Chen, Donghua University, China

# SOCIAL PROGRAMME

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## Monday 23 July - Welcome Reception

On Monday 23rd July, 16:00 - 19:00, we are holding a welcome reception for early arrivals in Parkinson Court. All attendees are welcome. This is a fantastic opportunity to register and collect your conference badge and bag, meet fellow delegates and network. A light buffet and drinks will be served. Poster presenters are also invited to hang their posters on arrival in advance of the academic conference starting on Tuesday.

## Tuesday 24 July - Poster Exhibition & Buffet

Parkinson Court will host the TIWC 2018 Poster Session from 17:30 on Tuesday 24 July. We would like all poster presenters to be available to answer questions on their work for the duration of the poster exhibition. A hot fork buffet and drinks will be served.

## Wednesday 25 July - Gala Dinner and Awards Ceremony, Royal Armouries Leeds

All full Conference Delegates, Student Delegates and Wednesday Day Delegates are invited to attend the Gala Dinner and Awards Ceremony at the Royal Armouries. Coaches depart from the Parkinson Steps outside the Parkinson Building at 18:30. Coaches return from 22:00 to the Parkinson Steps. The dress code is smart casual.

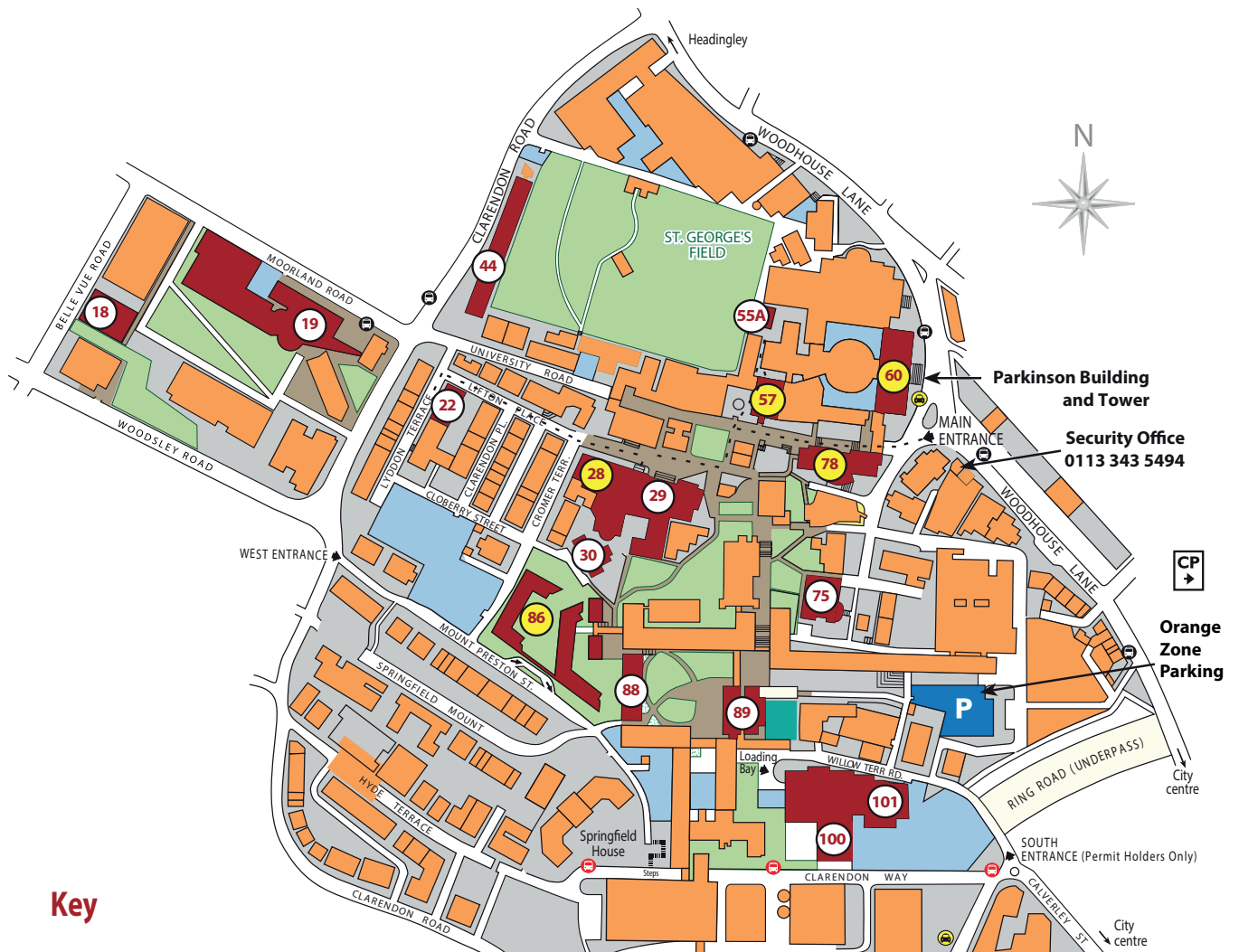
## Thursday 26 July - Social Evening, School of Design Tours and Entertainment

The social interaction and networking of any conference is important and so we have tried to provide another distinctive event that will build on the Dinner at the Royal Armouries. The social evening on Thursday is built around the tour of the School of Design and its facilities, but in addition we are also showcasing a jazz band to provide soothing mellow tones, bhangra music and dance to set your feet tapping and karaoke for the “rock and pop stars” to round off the evening. In addressing your musical and cultural appetites we will also provide the expected food and drinks to ensure your dietary intake needs are also satisfied.





# MAP



## Key

**Michael Sadler Building**

78

**Parkinson Building**

60

**Great Hall**

57

**University House**

28

**Charles Morris Hall**

86

## Car parks

University Multi Storey Car Park (limited access)



Other university car parks



Public multi-storey car park



## Other useful information

CityBus Stop



Bus Stop



Taxi Rank



Pedestrian Only Area



Lawns



## All venues on campus

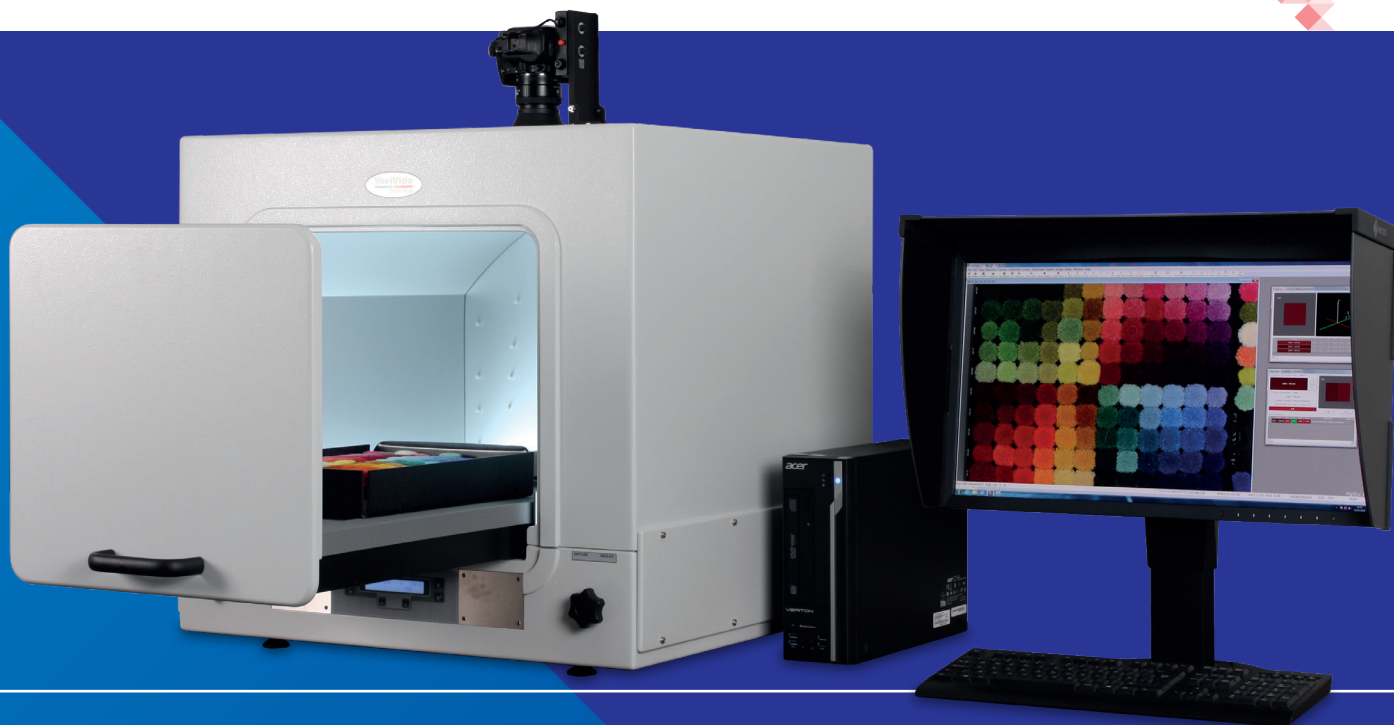
- 18. Western Lecture Theatre
- 19. Leeds University Business School (LUBS)
- 22. Eilerslie Hall
- 28. University House
- 29. Refectory
- 30. Lyddon Hall
- 44. Henry Price Residence
- 57. Great Hall

- 60. Parkinson Building
- 75. School of Music
- 78. Michael Sadler Building
- 86. Charles Morris Hall (Dobree House, Storm Jameson Court, Whetton House)
- 88. Staff Centre
- 89. Roger Stevens Building
- 100. Conference Auditorium
- 101. Sports & Exhibition Centre/The Edge

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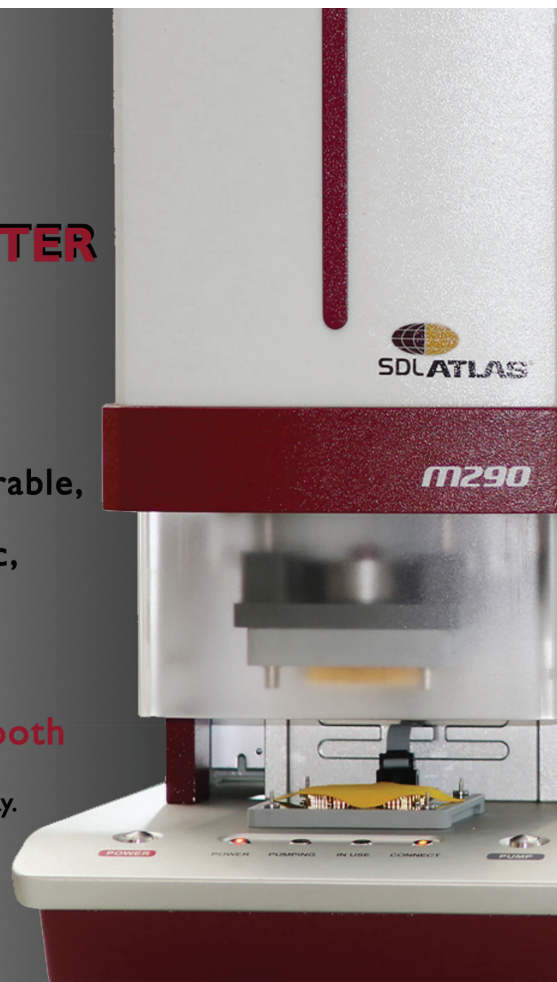
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