Tuesday 18 September  

Norcroft Conference Centre, University of Bradford

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<td>8.55</td>
<td>Welcome</td>
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| 9.00  | Processing Science & Technology 1    | Gerrit Peters & Roberto Pantani              | Cell morphology on Injection-molded PMMA microstructures as function of surface energy  
  Clemens Holzer, University of Leoben, Austria |
| 9.20  |                                      |                                               | Slip of polypropylene melts over different laser-induced periodic nano-structures in thin-wall injection molding  
  Giovanni Luchetta, University of Padua, Italy |
| 9.35  |                                      |                                               | Development of highly conductive hybrid composite  
  Aminul Islam, Technical University of Denmark, Denmark |
| 9.50  |                                      |                                               | Extrusion melt flow characterized in real time using in-line rheo-optical techniques  
  Sebastião Canerovolo, UFSCar, Brasil |
| 10.05 |                                      |                                               | In-process materials characterization during small-scale extrusion under constant operating conditions  
  Jose Covas, University of Minho, Portugal |
| 9.00  |                                      |                                               |                                                                          |
| 9.00  | Processing Science & Technology 2    | Ben Whiteside & Jose Covas                    | Melt Processing of Polymers for Pharmaceutical Applications  
  Adrian Kelly, Polymer IRC, University of Bradford, UK |
| 9.20  |                                      |                                               | Preparation of flexible polymer sensors by Spatial Confining Forced Network assembly  
  Xiaolong Gao, Beijing University of Chemical Technology, China |
| 9.35  |                                      |                                               | Selective Laser Sintering of Polyamide11/ Barium Titinate Piezoelectric Composite Powder  
  Ning Chen, Sichuan University, China |
| 9.50  |                                      |                                               | Continuous Manufacturing of Cocrysalts Using Solid State Shear Milling Technology  
  Sachin Korde, Pharmaceutical Engineering Science, University of Bradford, UK |
| 10.05 |                                      |                                               | Injection moulding and micro-injection molding with local cavity temperature control  
  Roberto Pantani, University of Salerno, Italy |
| 10.15 |                                      |                                               | 3D Printing: recent advances in material developments  
  Ludwig Cardon, University of Gent, Belgium |
| 10.25 | Coffee & Posters/ Exhibition/ Photo 1 |                                               |                                                                          |
| 11.05 | Processing Science & Technology 3    | Ludwig Cardon & Giovanni Lucchetta           | Advances in injection moulding simulation  
  Russ Speight, Autodesk Moldflow, Australia |
| 11.20 |                                      |                                               | Fibre Dispersion and Fibre Length Distribution in Long Glass Fibre Reinforced PP Injection Mouldings  
  Milian Gilson, Polymer IRC, University of Bradford, UK |
| 11.35 |                                      |                                               | Wittmann Battenfeld 10th Anniversary Showcase  
  Barry Hill, Wittmann Battenfeld Ltd, UK |
| 11.50 |                                      |                                               | The use of micron scale surface features in the fight against counterfeit goods  
  Phil Harrison, Sofmat Ltd, UK |
| 12.00 |                                      |                                               | Roll-to-roll processing for flexible devices  
  Hazel Assender, Oxford University, UK |
| 12.15 |                                      |                                               | UK government strategy aligned to polymer activities; and how the Knowledge Transfer Network can support you  
  Sally Beken, Materials KTN, UK |
| 11.35 | Lunch & Exhibition, Posters          |                                               |                                                                          |
| 13.30 | Processing Science & Technology 4    | Clemens Holzer & Guangian Li                 | Properties depend on structures; what is the origin of these structures?  
  Gerrit Peters, Technical University, Eindhoven, Netherlands |
| 13.50 |                                      |                                               | Reactive Jet Impingement: A New 3D Printing Process for Cell filled Gels  
  Kenny Dalgarno, Newcastle University, UK |
| 14.00 |                                      |                                               | Comparison of biophysical properties characterized for microtissues cultured using microencapsulation and liquid crystal based 3D cell culture techniques  
  Mansour Youseffi, Polymer IRC, University of Bradford, UK |
Smart hydrogels for controlled drug delivery
*Bana Shriky, Polymer IRC, University of Bradford, UK*

Molecular Design of Highly-Stretchable Ionomers
*Quan Chen, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China*

Development of improved bio-based polymeric compounds for durable applications
*Nikolas Kassos, Polymer IRC, University of Bradford / Floreon Ltd UK*

Design, Preparation and Application of Biobased Itaconic Acid Ester typed Elastomer Materials
*Xinxin Zhou, Beijing University of Chemical Technology*

Flow induced crystallisation in polymers: from molecules to processing
*Richard Graham, University of Nottingham, UK*

Polymer IRC Laboratory demonstrations

Tour and Reception, City Hall Bradford

Conference Banquet – City Hall Bradford, with the Lord Mayor & Deputy Ambassador to the UK, PR China

**Wednesday 19 September**

*Norcroft Conference Centre, University of Bradford*

9.00 **STRATEGY** Chairs: *Phil Coates & Guangxian Li*

- Guangxian Li, Sichuan University/ Director AMRI;
- Qin Zhu, Minister of the Chinese Embassy in the UK;
- Matthew Rous, CEO, China Britain Business Council
- Jiansheng Du, UK Department of International Trade
- Kersten England, Chief Executive Bradford City Council
- Phil Coates, Director Polymer IRC & Science Bridges China/ AMRI

**Med Tech 1** Chairs: *Fin Caton-Rose & Takeshi Kikutani*

- John Fisher, Director MeDe Innovation, University of Leeds, UK
- Kadem Al-Lamee, Arterius Ltd, UK
- Pete Twigg, Polymer IRC University of Bradford, UK
- David Farrar, Xiros Ltd, UK

9.50 **Coffee & Posters/ Exhibition** - *Conference Photograph*

10.00 **Processing Science & Technology 5** Chairs: *David Farrar & Yongfeng Men*

- Network structure determines failure property of semicrystalline polymers
  *Yongfeng Men, Changchun Institute of Applied Chemistry Chinese Academy of Sciences, China*
- Nanoindentation analysis of oriented polypropylene
  *John Sweeney, Polymer IRC University of Bradford, UK*
- Progress on Highly Oriented Poly (lactic acid) Produced by Solid-phase Die Drawing: Structure, Mechanical and Biological Properties
  *Lin Ye, Sichuan University, China*
- Tailored Fixation Devices Via Oriented Polymers with Shape Memory
  *Fin Caton-Rose, Polymer IRC, University of Bradford, UK*
- Finite element modelling of solid-phase tube die-drawing
  *Paul Spencer, Polymer IRC, University of Bradford, UK*
- Multicomponent Fiber Processing for Novel Applications
  *Takeshi Kikutani, Tokyo Institute of Technology, Japan*

10.40 **Lunch & Exhibition & Posters**

11.10 **Med Tech 2** Chairs: *Adrian Kelly & Steve Rimmer*

- Determination of material distributions in drug delivery systems
  *Jiwen Zhang, Shanghai Institute Materia Medica Chinese Academy of Sciences, China*
- Destabilisation of polyacrylic acid gel by counter ion replacement
  *Anant Paradkar, Pharmaceutical Engineering Science, University of Bradford, UK*
- Enhanced bioavailability of Curcumin loaded nano-hydroxyapatite injectable paste
  *Niten Jadav, Pharmaceutical Engineering Science, University of Bradford, UK*
- Multi-functional Materials for the Manufacture of Antimicrobial Medical Devices
  *Paul Hatton, University of Sheffield, UK*
- Orthopaedic compression screws formed from body-temperature reverting, shape-memory polymers
  *Brian Thomson, Polymer IRC, University of Bradford, UK*
Mechanical Assessment and Preclinical Development of Shape Memory Sutures: A MeDe Innovation Collaboration
Tony Herbert, Leeds University, UK

Material Characterisation of Tubular Electrospun PCL and PLGA for Vascular Tissue Engineering
Farshid Sefat, Polymer IRC, University of Bradford, UK

EfferShield technology Innovative approach for manufacturing of effervescent product
Sudhir Pagire, Pharmaceutical Engineering Science, University of Bradford, UK

15.00 Coffee & Posters/Exhibition

Med Tech 3 Chairs: Jiwen Zhang & Anant Paradkar

W20 15.30 Highly branched poly(N-isopropyl acrylamide) responsive to fungi
Steve Rimmer, Materials Chemistry, University of Bradford, UK

W21 15.50 Hemosome formed by protein–polymer conjugate assembly as oxygen carrier for cancer therapy
Yubin Huang, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China

W22 16.05 Using smart scaffolds to promote stem cell homing and tissue for in situ repair of cartilage lesions caused by trauma and early osteoarthritis
Aileen Crawford, University of Sheffield, UK

W23 16.15 Sustainable development of polymer materials: stability and degradability as well as utilization of solar energy and renewable resources
Yi Dan, Sichuan University, China

W24 16.25 Harnessing nano-patterning and incorporation of antimicrobials to manufacture orthopaedic trauma implants that resist microbial colonisation
Maria Katsikogianni Polymer IRC, University of Bradford, UK

W25 16.35 Bio-inspired Anti-oxidant Defence System Constructed By Electrospun F127-based Fibers
Qiang Shi, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China

W26 16.45 Chain Structure design, synthesis and applications of polyvinyl alcohol
Jiang Long, Sichuan University, China

W27 16.55 Incorporation of Conjugated Polyelectrolytes with Surfactant/Sol Systems – Theoretical, Photophysical and Scattering Studies
Beverly Stewart, University of Bradford, UK

W28 17.05 Development of Universal (Viscometric) Size Exclusion Chromatography Calibrated by DOSY NMR
Tom Swift, Materials Chemistry, University of Bradford, UK

W12 17.15 Exploiting shape memory properties of polymers in the development of drug eluting soft tissue fixation devices
Karthik Nair, Polymer IRC, University of Bradford, UK

17.25 Brief Laboratory visit

18.30 Banquet - Midland Hotel

Thursday 20 September
Norcroft Conference Centre, University of Bradford

Processing Science & Technology 6 Chairs: Hesheng Xia & Ben Whiteside

Th1 9.00 Molecularly Engineered Non-particulate and Continuous Ultra-Low Density Hybrid Silica Aerogels: Superstrong and Superinsulative
Chul Park, University of Toronto, Canada

Th2 9.20 Microcellular Foam extrusion and reducing Carbon footprint, improving Sustainability
Simon Dominey, MuCell Extrusion, USA

Th3 9.30 Preparation of PVD film with high performance by Solid State Shear Milling (S3M) and Biaxial Stretching
Li Li, Sichuan University, China

Th4 9.40 Polymers for the rolling bearing applications in the variety of industries
Karolis Vilcinskas, University of Bradford/ BNL Ltd, UK

Th5 9.50 Exchange Researches in University of Bradford --study on polymer blends in micro-injection molding and die-drawing
Qi Yang, Sichuan University, China

Th6 10.00 In-situ Shrinking Microfibers Enhance Strain Hardening and Foamability of Linear Polymer
Patrick Lee, University of Toronto, Canada

10.15 Coffee & Posters/Exhibition

Processing Science & Technology 7 Chairs: Chul Park & Russ Speight

Th7 10.45 Self-Healing Polyurethane Elastomer Materials
Hesheng Xia, Sichuan University, China
| Th8  | 11.05 | A method for predicting geometric characteristics of polymer deposition during fused-filament-fabrication  
Michael Hebda, Polymer IRC, University of Bradford, UK |
|------|-------|-------------------------------------------------------------------------------------------------------------------|
| Th9  | 11.15 | Film characterisation for the development of prototype automated stretch wrapping system  
Cristina Tuinea-Bobe, Polymer IRC, University of Bradford, UK |
| Th10 | 11.25 | Stereocomplex formation crystalline structure of long chain branched poly (L-lactic acid)/poly (D-lactic acid) blends: Effect of melting temperature  
Zhongguo Zhao, Sichuan University, China/ Polymer IRC, University of Bradford, UK |
| Th11 | 11.35 | Process fingerprinting for optimised production of thermoplastic microneedle arrays using ultrasonic microinjection moulding  
Mert Gulcur, Polymer IRC, University of Bradford, UK |
| Th12 | 11.45 | Three-Dimensional Porous Carbon Materials with Tunable Super-Wettability toward Oil Spill Remediation and Electrochemical Capacitive Energy Storage  
Wei Zhang, Sichuan University, China |
| Th13 | 11.55 | Moulding of micro and nano scale features for surface functionalities  
Ben Whiteside, Polymer IRC, University of Bradford, UK |
| Th14 | 12.15 | Thanks  
Phil Coates, Polymer IRC, University of Bradford, UK |

12.20  Lunch/ Exhibition & Posters

13.30  Social Event
Coach departs  
travel through Yorkshire Dales countryside  
Arrive at Harewood House  
House tour  
Reception & Meal

20.30  Coach returns