

## Tuesday 9 July

Norcroft Conference Centre, University of Bradford

8.55 **Welcome**

**Towards a Circular Economy for Plastics – 1** Chairs:

- T1 9.00 Government support for the UK Plastics Circular Economy  
*Sally Beken, Materials KTN, Innovate UK*
- T2 9.15 Circular Economy Business Model Canvas: A Plastics value-chain opportunity?  
*Amir Sharif, U Sivarajah, Faculty of Management & Law, University of Bradford, UK*
- T3 9.30 Circular economy and commodity plastics: how to find concepts for the future  
*Maria Soliman, Sabic STC Geleen, The Netherlands*
- T4 9.45 Acoustic and Thermal Insulation Materials from Elastomeric Waste Residues  
*Hadj Benkreira, A. Khan and N. Al-Hilo Polymer IRC, University of Bradford, UK*
- T5 10.00 Quality Assurance of prime and recyclate material using the identiPol – an Automated Thermal Analysis device  
*John Duncan, Lacerta UK, R McKinnon & J-P Garmson, Emtelle UK Ltd*
- T6 10.15 Bio-based and biodegradable plastics: disruptive technology  
*Krisztina Kovacs-Schreiner, A Longdon, P Mines, G Davies, Biome Bioplastics, UK*

10.30 **Coffee & Posters/ Exhibition**

**Towards a Circular Economy for Plastics – 2** Chairs:

- T7 11.00 Developments in Sustainable Processing and Recycling of Polymers  
*Adrian Kelly, Polymer IRC, University of Bradford, UK*
- T8 11.15 Plastech Innovation- from bottle caps to concrete, a student spinout  
*Scott Bush, N Boulding, P Buckley, Plastech Innovation, Durham University*
- T9 11.30 Development of optimised bio-based PLA compounds for durable applications  
*Andy Gill, Floreon Transforming Packaging Ltd UK, Nikolaos Kassos, A Kelly, T Gough Polymer IRC, University of Bradford*
- T10 11.45 Polymer assisted continuous cocrystallisation  
*Anant Paradkar, S Korde, S Pagire, K Cooke, T Khan, A Kelly, P Coates, Polymer IRC, University of Bradford, UK, P He, S Bai, Y Chen, Q Wang, Sichuan University, China, University of Bradford, UK*
- T11 12.00 Extracting Value from Plastic Waste  
*Ian Fouweather, A Sharif, U Sivarajah, Faculty of Management & Law, University of Bradford, UK*

12.15 **Lunch & Exhibition, Posters Conference Photograph?**

**Processing Science & Technology 1: Precision 3d printing** Chairs:

- T12 13.15 Post processing of polymeric cranial implants produced by material extrusion based additive manufacturing  
*Clemens Holzer, J Gonzalez-Gutierrez, Institute of Polymer Processing, S Petersmann, Institute of Material Science and Testing of Polymers, Montanuniversitaet Leoben, Austria; M Pichelmayer, Clinic for Oral Surgery and Maxillofacial Orthopedics, G von Campe Clinic for Neurosurgery, Medical University of Graz, Austria*
- T13 13.35 A method for predicting geometric characteristics of polymer deposition during fused-filament-fabrication  
*Michael Hebda, P Caton-Rose, Polymer IRC, University of Bradford, UK*
- T14 13.50 Optimisation of interlayer cohesion in Continuous Fibre Additive Manufacturing (CFAM)  
*Willem van de Steene University of Gent, Belgium*
- T15 14.05 3D printed thermoplastic elastomers: dependence of mechanical properties on nozzle height  
*Xiang Lin<sup>1</sup>, Michael Hebda<sup>2</sup>, Glen Thompson<sup>2</sup>, Fin Caton-Rose<sup>2</sup>, Phil Coates<sup>2</sup>*  
*<sup>1</sup> University of Science and Technology, Beijing; <sup>2</sup> Polymer IRC, University of Bradford, UK*
- T16 14.20 Cooling effects on parts produced by Fused Filament Fabrication  
*Jose Covas, F. M. Duarte, University of Minho, Portugal; S. F. Costa CIICESI - Center for Research and Innovation in Business Sciences and Information Systems, Porto Polytechnic Institute (IPP), Felgueiras, Portugal*

14.40 **Coffee & Posters/ Exhibition**

**Processing Science & Technology 2: Precision Solid Phase Processing** Chairs:

- T17 15.10 All Cellulose Composites  
*Pete Hine, Mike Ries, Polymer IRC/ Soft Matter Physics, School of Physics and Astronomy, University of Leeds, Leeds, UK*
- T18 15.30 Developments in Solid Phase Polymer Processing  
*Fin Caton-Rose, P Coates, J Sweeney, P Spencer, G Thompson, Polymer IRC, University of Bradford, UK*

T19	15.45	Analysis and modelling of polymer deformation for solid phase forming applications <i>Paul Spencer, Polymer IRC, University of Bradford, UK</i>
T20	16.00	SMP and hybrid polymer tendons for concrete crack closure <i>Tony Jefferson, B. Balzano, R. Davies, Cardiff University UK</i>
T21	16.15	Manufacturing and characterisation of drug eluting, thermosensitive shape memory or self-tightening surgical sutures <i>Karthik Nair, Centre for Advanced Materials Engineering, Polymer IRC, University of Bradford, UK</i>
T22	16.30	Pharmaceutical Amorphous Systems using Solid State Shear Milling (S3M) <i>Sachin Korde, S Pagire, A Paradkar, K Cooke, T Khan, A Kelly, P.D.Coates, Polymer IRC, University of Bradford, UK, P He, S Bai, Y Chen, Q Wang, Sichuan University, China</i>
	16.45	<b>Polymer IRC Laboratory demonstrations</b>
	18.30	<b>Drinks Reception – Great Victoria Hotel</b>
	19.00	<b>Conference Banquet - Great Victoria Hotel</b> Including celebration of Polymer IRC 30 <sup>th</sup> Anniversary

## Wednesday 10 July

*Norcroft Conference Centre, University of Bradford*

### Processing Science & Technology 3: Advanced materials Chairs:

W1	8.50	Additives for polymers <i>Ian Robinson, Greylag/SOFI CDT Durham UK</i>
W2	9.10	Processing-Structure-Property Relationships in Composites of Polymers and 1D/2D Nanomaterials <i>Tony McNally, Warwick Manufacturing Group, University of Warwick UK</i>
W3	9.25	Highly Sensitive Resistive Pressure Sensing Materials Processed by Micro Injection Molding <i>Xiaolong Gao, Beijing University of Chemical Technology, China</i>
W4	9.40	Optically reflective polymer film and sheet by extrusion and layer multiplication <i>N. Naveh, M. M. Dagan, Shenkar College, Israel</i>
W5	9.55	Electron Beam treated Shape Memory Polymers for the automotive industry <i>Cristina Tuinea-Bobe, J Sweeney, B R Whiteside, P E Spencer, Polymer IRC; D O'Sullivan, Sherkin Technologies Ltd., Ireland</i>
W6	10.10	Self-healing dielectric elastomer actuators <i>Chaoying Wan, C Ellingford, T McNally, Warwick Manufacturing Group, University of Warwick UK</i>
W7	10.25	Applications and developments in real world micro-cellular foaming <i>Simon Dominey, MuCell Extrusion, USA</i>

### 10.40 Coffee & Posters/ Exhibition

### Processing Science & Technology 4: Precision Moulding Chairs:

W8	11.10	Simulation of ultra - precision moulding processes <i>Ben Whiteside, M Babenko, M J Gilson, Centre for Polymer Micro &amp; Nano Technology, Polymer IRC, UK, F Costa Autodesk Moldflow pty, Australia</i>
W9	11.30	Ultra Precision Machining of Micro Fluidic Mould Inserts <i>Gary Clark, Joao Ricardo Goncalves, Microsystems UK Ltd</i>
W10	11.45	Process fingerprinting: in-line quality assurance and process monitoring for ultrasonic moulding of thermoplastic microneedle arrays <i>Mert Gulcur, E C Brown, T Gough, B Whiteside, Polymer IRC, University of Bradford, UK</i>
W11	12.00	Lotus-leaf inspired replicated surfaces: hydrophobicity evolution of replicas due to mechanical cleaning and tool wear <i>Jean-Michel Romano, A Garcia-Giron, P Penchev, S Dimov University of Birmingham UK</i>
W12	12.15	Micro-injection moulding with local cavity temperature control <i>Annarita de Meo, Roberto Pantani, University of Salerno, Italy Felice De Santisa, Borealis Polyolefine GmbH Austria</i>

### 12.30 Lunch & Exhibition, Posters Conference Photograph?

### Processing Science & Technology 5: Med Tech Chairs:

W13	13.30	Development and Commercialisation of Bioresorbable Polymer Medical Implants <i>Nial Bullet/ Kadem Al-Lamee, Arterius Ltd, UK</i>
W14	13.45	Precision processing at Polymermedics <i>Neil Skyba, Polymermedics</i>
W15	14.00	Multifunctional composites and nanotopographies for cell instructive and antibacterial implants <i>Maria Katsikogianni K. Nair, C Tuinea-Bobe, P Coates, B Whiteside Polymer IRC, University of Bradford, UK T. Paterson, M Santocildes-Romero, I Ortega Asencio, P Hatton, Clinical Dentistry, University of Sheffield</i>
W16	14.15	Biodegradable Scaffolds for Vascular Tissue Engineering <i>Farshid Sefat, Polymer IRC, University of Bradford, UK</i>

- W17 14.30 Orthopaedic compression screws formed from body-temperature reverting, shape-memory polymers  
*Brian Thomson, K Nair, P Coates, P Caton-Rose, Polymer IRC, University of Bradford, UK*
- W18 14.45 Smart injectable hydrogels for controlled release drug delivery  
*Bana Shriky, A Kelly, M Isreb, T Gough, Polymer IRC, University of Bradford, UK*
- 15.00 Coffee
- Processing Science & Technology 6: Chairs:**
- W19 15.30 Developments in Robotic Rotational Moulding  
*Peter Martin, M McCourt, M Kearns, Polymer Processing Research Centre, Queen's University Belfast, UK*
- W20 15.45 Fibre Dispersion and Fibre Length Distribution in Long Glass Fibre Reinforced PP Injection Mouldings  
*Millan Gilson, P Caton-Rose, B Whiteside, Polymer IRC, University of Bradford, UK/ Franco Costa, Autodesk*
- W21 16.00 Precision(s) in Casting and Machining Nylon-6  
*Malcolm Fox, Nylacast*
- W22 16.15 Precision polymer bearings for a variety of industries  
*Karolis Vilcinskas, G. Meakin, A. Arch, BNL (UK) Ltd, UK*
- W23 16.30 Electrospinning of Polymer Solutions for Biomedical Applications  
*Pete Twigg, Polymer IRC University of Bradford, UK*
- W24 16.45 Flow induced crystallisation in polymers: from molecules to processing  
*Max Babenko, T Gough, B Whiteside, Polymer IRC, Bradford UK*
- W25 17.00 Graphene nanoplatelet reinforced elastomers  
*Rob Innes, Polymer IRC, Bradford; M.Liu, A.J. Marsden, I.A. Kinloch, R.J. Young, D.G. Papageorgiou University of Manchester, UK*
- 17.15 Closing comments  
*Phil Coates, Polymer IRC, Bradford UK*  
*End of conference*

sponsored by:

 ThermoFisher  
SCIENTIFIC

 Wilmann Battenfeld

 UNIVERSITY of  
BRADFORD

 polymer  
IRC

 MeDe  
Innovation  
2020 Centre for  
Innovative Manufacturing  
in Medical Devices



Taylor & Francis Group  
an informa business

 The Polymer Society  
A Division of the Institute of Materials, Minerals and Mining