

enhanced polymer processing

POLYMER PROCESS ENGINEERING 03 enhanced polymer processing

enhanced polymer processing
is an EPSRC major collaborative grant
www.brad.ac.uk/acad/epp



PPE03 is sponsored by:

Faraday Plastics
– applied polymer research



Isco Inc and Presearch Ltd
– precision processing



Presearch

**The Engineering & Physical Sciences
Research Council:**



This is an event of the EPSRC and the DTI (MPM1.4) In Process
Measurement networks:



PPE03 has again been organised in association with the Polymer
Processing and Engineering Committee of the Institute of Materials,
Minerals and Mining

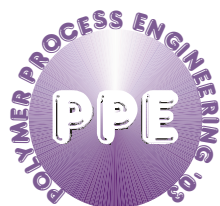


The Institute of Materials, Minerals & Mining

and the Institute's international polymer journal,

**PLASTICS, RUBBER AND COMPOSITES:
Macromolecular Engineering**

published by Maney Ltd



enhanced polymer processing

Tuesday 1 July

8.45 Registration & Coffee, D4 Foyer

9.10 Welcome

SESSION 1 Injection Process Developments

9.15 Micromoulding: Interrogating the Process
B Whiteside, M T Martyn, P D Coates, Bradford Univ. / P Allan, G Greenway, P Hornsby, Brunel University

9.45 Micromoulding industrial developments
P Manser Battenfeld/ G Mills Ultratools/ A Rankin Sovrin

10.10 Micromoulding – alternative technology developments
B Murray, S Hinstead, Rondol

10.35 Coffee – exhibition area

11.05 Novel processes for injection moulding
P Allan, M J Bevis, Brunel Univ.; K Yasuda, Asahi Chemical Co.

11.30 Evaluation of Pulsed Cooling in Injection Mould Tools
B A McCalla, P S Allan, P R Hornsby, A G Smith, L Wrobel, Brunel Univ. / A L Kelly Bradford University

12.00 Fluid-Assisted Injection Processing
G Smith, R Magalhaes R Hansell, Warwick Univ./ P D Coates, A J Dawson, L Mulvaney-Johnson, M Woodhead, Bradford University

12.25 Fibre Orientation - Design-Performance Interactions in Short Fibre Reinforced Composites
R A Duckett, P Hine, Leeds Univ./ P Caton Rose Bradford Univ., P Jittman, C Chapman, G Smith, Warwick University

12.50 Lunch & Exhibition

SESSION 2: Extrusion & Other Process Developments

13.45 **Keynote: Process monitoring along the extruder,**
J.A.Covas, O.S. Carneiro, P. Costa, A.V. Machado, J.M. Maia University of Minho.

14.25 Using Camera Vision Web Inspection as a QC tool
S Dominey, Davis Standard Killion Inc

14.50 Supercritical Fluid Assisted Processing of Polymers
P R Hornsby, S Matthews Brunel University/ N Brooks, R Simpson Rapra Ltd

15.15 Tea – exhibition area

15.30 High Throughput Bicomponent Microfiber Production
R Zhao, E Eckhard, A Schwarz, Biax FibreFilm Inc

15.55 Roller die extrusion
H Benkreira, J Paragreen, M Cox, R Patel, M Gale, Bradford University

16.20 Blown film – processing stability for metallocenes
P Lafuente-Canas, B del Amo Fernandez.. Repsol s.a /G Smith, R Spares, M T Martyn, Bradford University

16.45 Laboratory demonstrations

19.30 **Conference Dinner**

POLYMER PROCESS ENGINEERING 03

Tuesday 1 - Wednesday 2 July 2003
University of Bradford, Bradford, UK
Programme

Wednesday 2 July

8.45 Registration & Coffee, D4 Foyer

SESSION 3 Sensors and Modelling & Control

9.20 **In-Line Monitoring of Dielectric and Fluorescence Spectroscopy During Polymer/Filler Compounding**
A J Bur, S C Roth, Y-H M Lee, N Noda, NIST, Washington/ M McBrearty, Chemical ElectroPhysics

10.00 Melt temperature fields measurements: instabilities and effects of screw geometry on temperature fields
E C Brown, A L Kelly, Bradford University

10.25 Energy measurements for non-invasive process monitoring

A J Dawson, H Rajamani, P D Coates, Bradford Univ.

10.50 Coffee – exhibition area

11.20 Investigation of Wave Interfacial Instabilities in Flat Coextrusion Dies: Simulation and Experimental Research
M Zatloukal, University of Zlin, M T Martyn, R Spares, P D Coates, Bradford University

11.50 Biaxial testing of plastics at high strain rates and temperatures

E Harkin Jones, A Tshai, P Martin, Belfast University

12.15 Gas Assisted Injection Moulding: Process Setup and Optimisation Using a Rule Based Expert System
R G Speight, P Brincat, A Bakharev, Moldflow pty/ L Mulvaney Johnson, Bradford University

12.45 Real-Time Monitoring of Ethylene Vinyl Acetate Extrusion using Process Spectroscopy
S Barnes, H Edwards, I Scowen, M Sibley, P D Coates, Bradford University/ W Baker, AT Plastics

13.15 Lunch Opening of Polymer CIC

14.15 Modelling and Control of Reactive Rotational Moulding
B Crawford, N Corrigan, J Watterson, S. Raghunathan, R J Crawford, E Harkin-Jones, Belfast University, E C Brown, Bradford University

SESSION 4: Business and Environmental

14.45 Faraday Plastics: Roadmapping for the Plastics Industry
N Brookes, N Tucker, R Simpson, Faraday Plastics

15.15 Materials and Products from UK-Sourced PVC-Rich Waste for New and Existing Markets

R M Rose, A L Kelly, Bradford/ S Weston, WRAP

15.40 Industry Support: Materials Information Service

J Czernski, IoM3 Materials Information Service

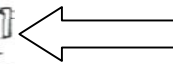
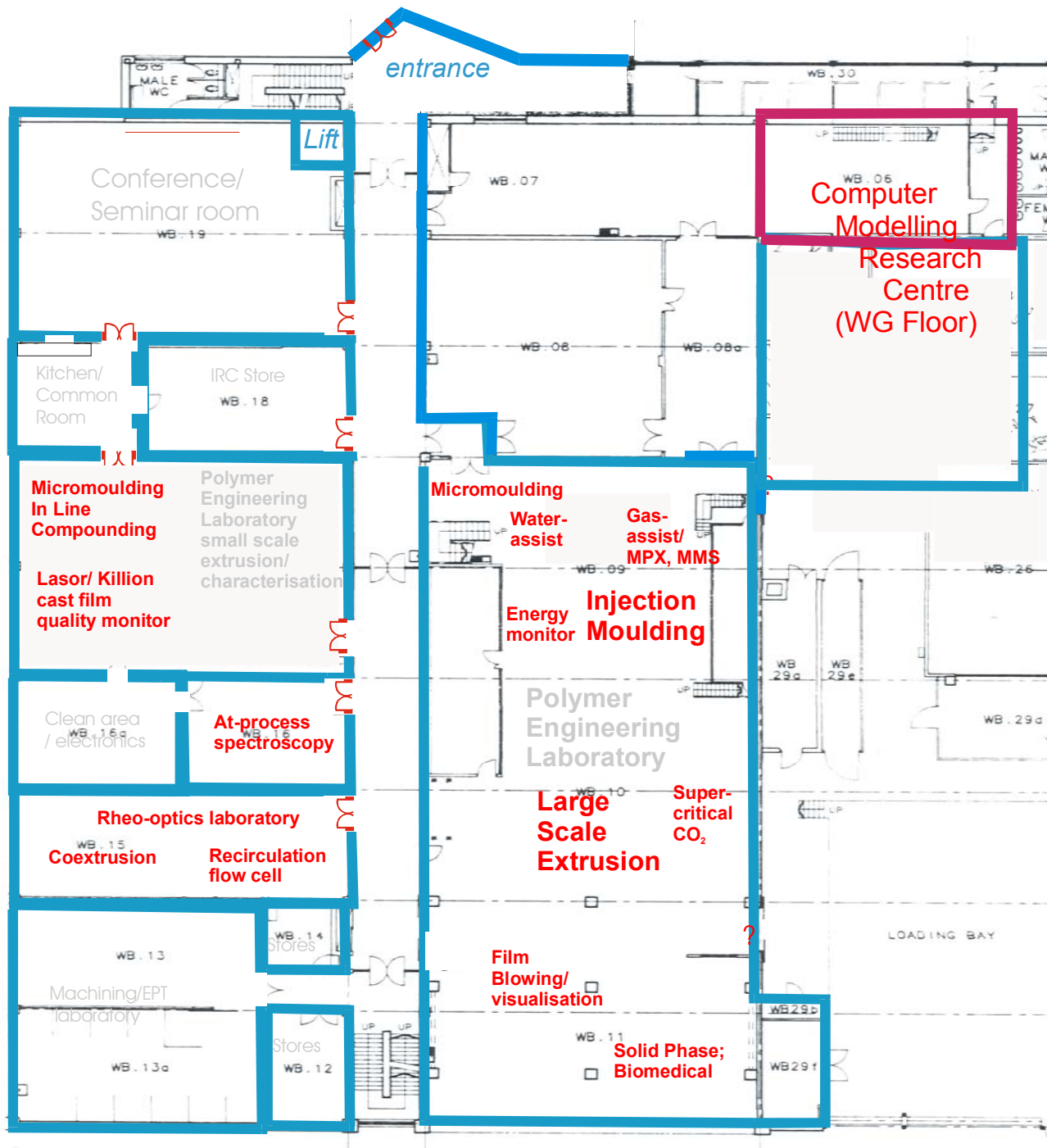
15.50 Industry Support: The Regional Development Agency and its Role in Fostering Links Between Higher Education and Business

C Williams, Yorkshire Forward

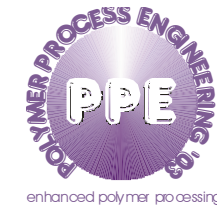
16.00 **Tea & End of Meeting**

Laboratory demonstrations

Carlton Road



From Main Entrance, & JSBell Lecture Theatre



IRC Polymer Engineering laboratory:

Demonstrations/ displays include:

- Water-assisted injection
- Moldflow MPX for gas
- Micromoulding
- Micromoulding in line compounding
- Process energy monitoring
- Supercritical CO₂ process
- Film blowing visualisation
- At-process spectroscopy
- Recirculation flow cell – rheo optics
- Particle tracking
- Lasor in-process film quality monitoring

