

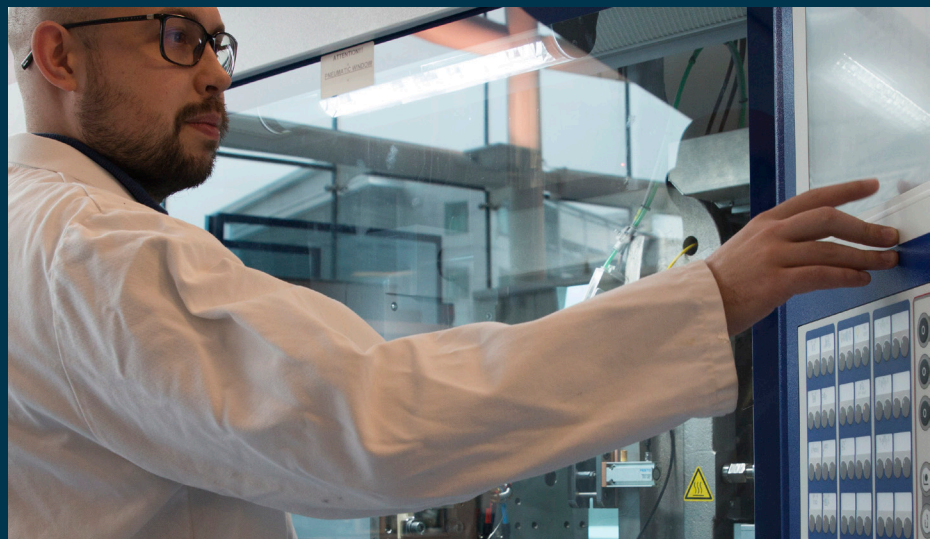


UNIVERSITY of
BRADFORD

Faculty of Engineering
& Informatics

Faculty of Engineering and Informatics Newsletter

October 2020



Welcome from the Dean

As we now approach the end of the first month of delivery of the blended offer to students, I would like to thank all of you for the energy, dedication and innovation you have shown in welcoming our students and engaging them with a carefully designed mixture of online and face-to-face education.

Now that more of us are spending part of our week on campus, I would specifically like to remind you about what has been agreed for face-to-face meetings - you are still required to limit the number of face-to-face activities you conduct within your work.

Finally, in this most exceptional of years do give thought to your work-life balance and ensuring you take some annual leave.

Stay safe and keep in touch!



Newsletter summary:

1. Academic in profile
2. RKT News (grants applications, open calls, presentations and awards)
3. Staff and Students' news

Initiative to help anyone recently made redundant in UK gain new skills or change career

Postgraduate course costs at the University of Bradford have been cut by a fifth for anyone made redundant in the UK since April 1, 2020.

The move is aimed at helping those who have found themselves out of work and either wish to reskill or change careers.

Postgraduate Masters' degree costs will be reduced by 20 per cent for anyone affected by redundancy during the pandemic.

More here: www.bradford.ac.uk/news/archive/2020/university-of-bradford-slashes-postgraduate-course-costs-by-20-per-cent.php



Academic in profile:

Dr Elaine Brown



Dr Elaine Brown is a Reader in Mechanical & Process Engineering in the Department of Chemical Engineering. Elaine is a Chartered Mechanical Engineer, with a Bachelors degree in Manufacturing Systems with Mechanical Engineering (Bradford) and a PhD in Ultrasonic Monitoring of Polymer Melt Extrusion (Bradford).

Her research is focused on ultrasonic technologies and their applications in industrial settings. Research on in-process measurements looks at applications of ultrasound to measure material and/or process properties in-line during polymer melt extrusion, hot melt extrusion, injection moulding and micromoulding, rotational moulding and on methods of measuring polymer melt temperature. The techniques provide a robust, adaptable and non-invasive in-process measurement. Research into high power applications of ultrasound include ultrasonic polymer injection moulding and pharmaceutical processing. Research into ultrasonic characterisation of solids includes characterisation of composites and advanced materials, and determination of material properties.

Her research projects fit across a number of areas including the Centres for Advanced Materials, Micro and Nanotechnology and Pharmaceutical Engineering Science and materialised itself in over 100 publications and in research projects funded by the EU (POLYSENSE), EPSRC, British Council and by industrial collaborators.

Teaching is very important to Elaine - she lectures across the stages including Foundation Year, all students who are part of the interdisciplinary first year on engineering courses, second and third year chemical engineering modules and supervision of MEng and MSc research projects. Through this she has a clear idea of student priorities and interests and loves to facilitate and support their development.

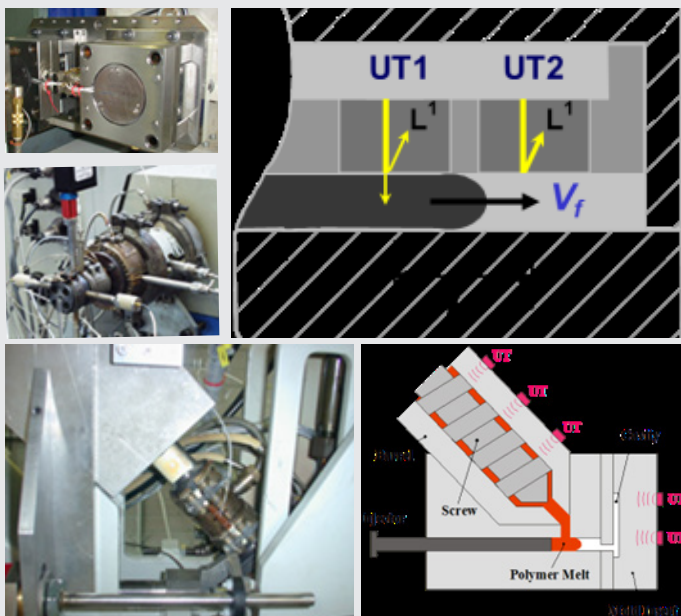
Elaine is actively involved in outreach activities, focussing on promoting diversity in Engineering, encouraging girls to consider a career in STEM, and running events for all ages from primary school children (including events during Bradford Science Festival October 2020) through to undergraduate and postgraduate events such as this year's International Women in Engineering Day 2020 online panel discussion held in June. She spends a lot of time promoting the Faculty of Engineering and Informatics via recruitment activities, Chairing the Faculty Marketing and Recruitment Committee, planning and organising open days, and delivering presentations -in recent months these have covered online events for prospective students both home and international, and webinars for the University and for external organisations including UniTasterDays and the British Council. More widely, Elaine is the Faculty Diversity & Inclusion Facilitator, representing Faculty interests to the University. She has been Chair of the Gender Staff Forum for many years and considers diversity and celebration of different perspectives to be beneficial and integral to our University, as it is in industry and society.

Other University responsibilities include being a member of Senate.

Current research interests:

- High power ultrasound - application and effects on material properties
- In-process measurements – ultrasound, ultrasound combined with NIR and Raman spectroscopy, ultrasound combined with dielectric measurements, temperature, energy, tomography.
- Process characterisation - thermal investigations, energy consumption

Active research projects: Ultrasonic determination of properties of polymer composites



Research and Knowledge Transfer

Submitted Projects:

- Combatting Food Waste and Loss: Circular Economy Perspective using Digital Technology, UKRI, Dhaval Thakker
- Horizon Scanning - Use of Data for Urban Planning and Land Usage, Digital Catapult, Dhaval Thakker
- Compounding of polymers with biodegradable additives, Nonwovens Innovation Research Institute Limited, Adrian Kelly

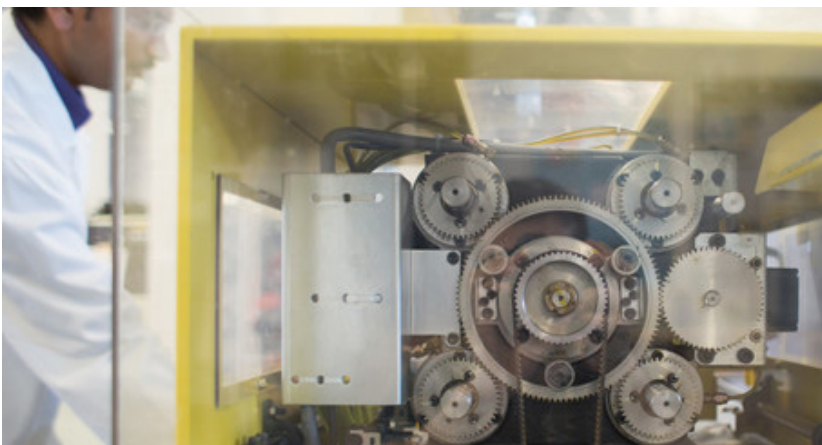


University of Bradford
wants to inspire
youngsters to learn more
about science and
engineering

The University of Bradford is on the lookout for future engineers and it will be showing young people exactly what they get up to at this year's Bradford Science Festival.

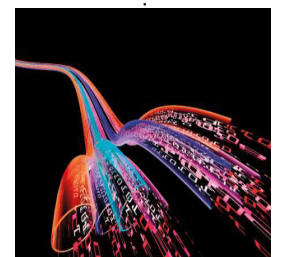
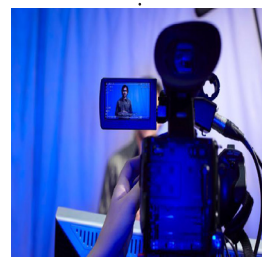
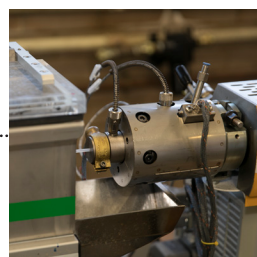
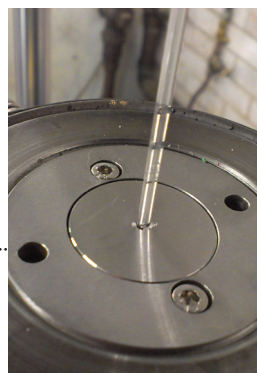
There will be a whole host of activities, from displays, videos and activities to try at home, including learning how soap breaks down viruses, a minibeast garden hunt and a presentation on one of nature's most intriguing mammals: naked mole rats, who live their entire lives underground.

More here: <https://www.bradford.ac.uk/news/archive/2020/become-an-ingenuous-engineer-fight-viruses-and-learn-about-naked-mole-rats-at-bradford-science-festival.php>



Open calls for funding:

- Research Software Engineer Fellowships 2020, closing date: 17 November 2020 at 16:00
- Stephen Hawking Fellowships, closing date: 18 November 2020 at 16:00
- Statements of Need for National Research Facilities, closing date: 30 November 2020 at 16:00
- Manufacturing the Future: Standard Research Proposals, closing date: 31 December 2020 at 16:00



Staff and Students' news

Dr Nejat Rahmanian presents at Young Professional Training Day 2020

Nejat delivered a presentation on Carbon Capture, Utilisation and Storage (#ccus) at the Young Professional Training Event 2020 organised by GPA Europe Ltd, where over 120 process engineers and graduates working in the oil and gas sector from UK and across EU joined the session

He talked about global warming, climate change and possible chemical and petroleum engineering solutions. His presentation addressed technical, economical, and social challenges and the way forward to reduce environmental impact.

The talk was followed by Prof. Chris Rayner who presented a case study of the Drax Group power plant that concentrated on new solvent for carbon capture.



Meet Our Speaker

GPA Europe Virtual Event Series
Thursday 08 October 2020



Dr Nejat Rahmanian

Prof Fun Hu and Prof Raed Abd-Alhameed are the guest editors of the special issue in the MDPI journal

This Special Issue aims at addressing topics on new state-of-the-art contributions in various domains of IoT and sensor networks, ranging from architectural models to specific implementation approaches.

Additionally, focus will be given to areas related to data analytics and machine learning and deep learning in modelling and deploying secure and trustworthy energy-aware solutions in IoT. Further, advances and challenges related to deploying sensor and wireless network for IoT-based healthcare solutions are desirable.

More here: www.mdpi.com/journal/sensors/special_issues/SIMHDA



Staff and Students' news

New staff

Nicholas Nyamayedenga

Nicholas graduated from the University of Bradford with an MEng in Chemical Engineering in 2014. He went on to work as a Quality Assurance Officer/ Technical Manager and H&S Officer in industry.

He re-joined the University of Bradford as a KTP Associate Process Engineer on 6th October 2020. This is in partnership with James Mae Industries who have designed and built a prototype machine to freeze-thaw water treatment sludge. The project will investigate chemical recovery in the sludge and explore possibilities of recycling and use the by-products of water treatment sludge in other industrial applications. Nicholas worked extensively as a soil research assistant/technician in the ministry of agriculture in Zimbabwe from 1983 to 2004, experience that will be employed in the present project.



IBM, Microsoft, Sky and more gathered in two-day tech talk to promote AI in the North

The University of Bradford's very own Hassan Ugail, Professor of Visual Computing, from the Faculty of Engineering & Informatics, launched the event.

More here: www.bradford.ac.uk/news/archive/2020/ibm-microsoft-sky-and-more-gather-in-two-day-tech-talk-to-promote-ai-in-the-north.php



Early Career Research Seminar (ECRF):

Dr Davide Nocita spoke about his work on reactive blends of bio-absorbable polyesters, properties and applications.

Dr Richard Dunn took us on a deep 'writing your proposal idea' journey.

Our next meeting is on 18 November 2020, 12 noon.



