



UNIVERSITY of
BRADFORD

Faculty of Engineering
& Informatics

Faculty of Engineering and Informatics Newsletter

November 2020



Welcome from the Dean

The Faculty operational model for research was appropriate for the second national lockdown in England. We continued the weekly process of approval and monitoring of PGR student attendance on campus, and the review of staff engaged in research and teaching. On this basis the justification of campus attendance was and must continue to be considered on a strictly 'business critical' basis, and confirmed on a weekly basis.

This month, the VC provided an update on the University's response to the latest government guidance for students who wish to travel home for the winter break. To support the return home of students for the Christmas period, the University is due to process student COVID tests during the first week in December.

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

University students will coach school children to pass GCSE maths

Hundreds of school children will benefit from extra maths tuition as part of a project which is training university students and recent graduates to become tutors.

Tom Green, who graduated with a computer science degree this year, is one of the tutors.

University of Bradford Vice-Chancellor, Professor Shirley Congdon, said the scheme reflected the University's long standing commitment to social mobility.

More here: www.bradford.ac.uk/news/archive/2020/university-students-will-coach-schoolchildren-to-pass-gcse-maths.php



Academic in profile:

Dr David Bryant

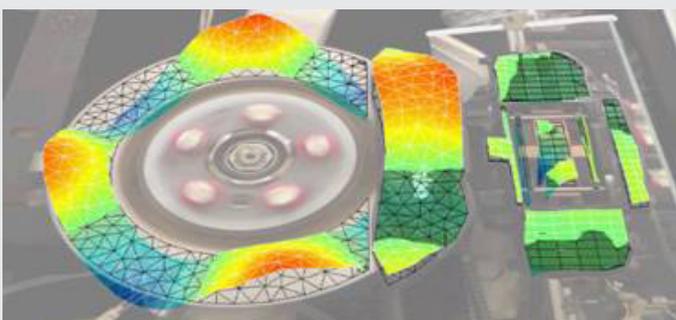
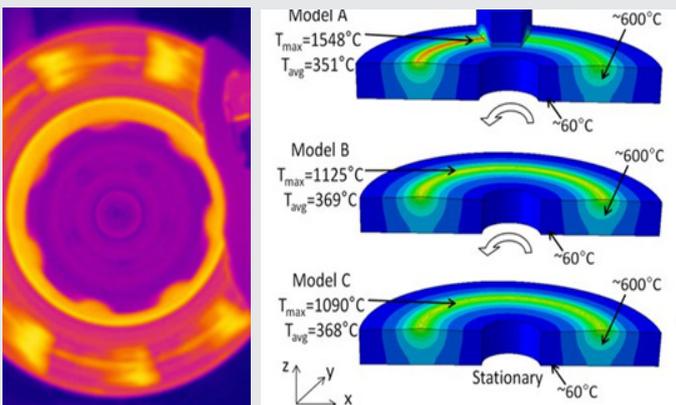


Dr Bryant is a Senior Lecturer in Automotive Engineering and a research specialist in automotive brakes and braking. He graduated with a degree in Automotive Engineering from the University of Leeds, followed by a PhD from the University of Huddersfield in the field of vehicle brake judder supported by Bentley Motors and an EPSRC CASE Award. A period at the University of Huddersfield saw him hold positions of Lecturer and Senior Lecturer before moving to the University of Bradford in 2012.

Dr Bryant is a member of the Faculty's Automotive Research Centre and directs the Braking Research Centre sub-group. Since 2018 Dr. Bryant has held the role of Chair of the IMechE Automobile Division Yorkshire Centre.

Drawing on regular funding from automotive OEMs, his work has gained international recognition by publishing numerous conference papers and journal articles. David's projects had directly impacted on vehicle design and production and embedded an understanding of complex problems.

David's Knowledge Transfer interests focus on the running of the renowned Braking of Road Vehicles short course for industry and the associated course on the Jaguar Land Rover Technical Accreditation Scheme.



Current research interests:

David interests are connected with vehicle brakes and braking systems with a specific focus on:

- Noise Vibration and Harshness (NVH)
- Braking instabilities
- Thermal effects.

Active research projects: hot-spotting determinants, investigation of stick-slip vibration, investigation of the thermo-elastic and thermo-plastic effects during braking.

Research and Knowledge Transfer

Submitted Projects:

- Frequency selectivity in phase-only beamformed user terminal direct radiating arrays, EU SATELLITE NETWORK OF EXPERTS, Raed Abd-Alhameed, Fun Hu
- Tough Water Solutions KTP, Innovate UK, Raed Abd-Alhameed
- Development of Novel Bio-based Polymers for Durable Applications, Floreon Transforming Packaging Studentship, Adrian Kelly

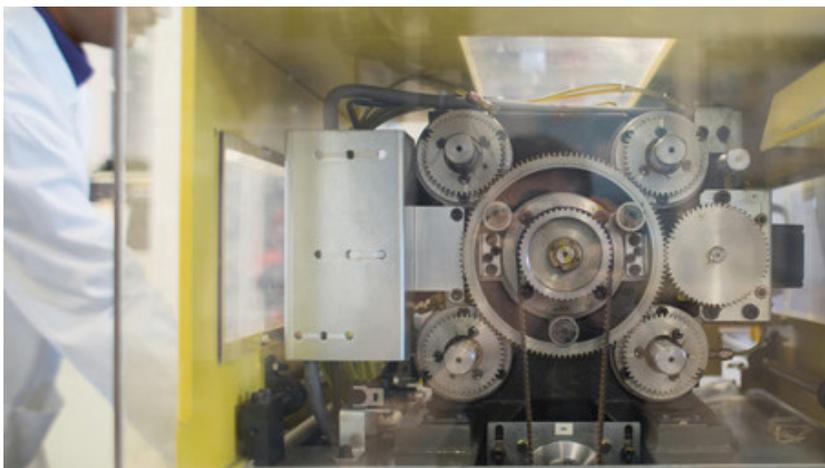


Bradford students scoop SIESO Medal for innovative pop-up book analysing disaster

A team of engineering students at the University of Bradford, UK have been awarded the 2020 SIESO Medal by the Institution of Chemical Engineers (IChemE) for their innovative pop-up book depicting the lessons learned in the 2005 Texas City Refinery disaster, which killed 15 people and injured 180 others.

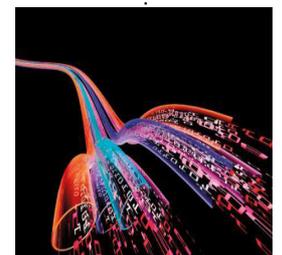
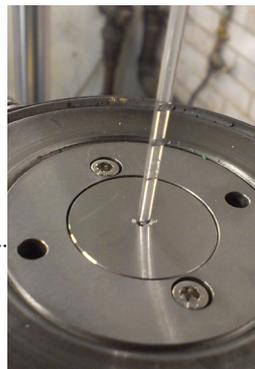
Winners Kalokson Gurung, Laya Jayadeep, Janusz Siwek, Satyam Vora and David Zhou produced a paper analysing the disaster to accompany their pop-up book.

More here: <https://www.icheme.org/about-us/press-releases/bradford-students-scoop-sieso-medal-for-innovative-pop-up-book-analysing-disaster/>



Open calls for funding:

- Manufacturing the Future: Standard Research Proposals, closing date: 31 December 2020 at 16:00
- Future Leaders Fellowships: Round 6, closing date: 19 January 2021 16:00
- UKRI-SBE lead agency opportunity, closing date: open - no closing date
- Daphne Jackson fellowship, closing date: open - no closing date
- ESRC new investigator grant, closing date: open - no closing date



Staff and Students' news

Dr Farshid Sefat is the guest editor of the special issue in Journal of 'Molecules'

The Special Issue 'Advances of Molecular Sciences in Regenerative Dentistry' aims to cover the advancements of molecular sciences in medicine and dentistry. At the molecular level, we seek to study how disease can be detected in the early phase and investigate novel treatment modalities, and their impact on prevention of dental diseases.

One of the focuses of biomolecules science is to engineer substances to be used in therapeutic procedures, able to interact with the components of living systems and promote specific treatment goals in order to improve the expected clinical outcomes.

More here: https://www.mdpi.com/journal/molecules/special_issues/Regenerative_Dentistry



Professor Ashraf Ashour is the winner of Newton Prize 2020

A team, led by Professor Ashraf Ashour in collaboration with Professor Mustafa Sahmaran, Hacettepe University, Turkey, have created a new low-cost 'green concrete' made entirely from recycled construction waste. Not only does it reduce CO2 emissions, but also promises its safe permanent storage. The use of recycled CDW also decreases the quarrying of new raw materials, taking away the need to strip the earth of its natural resources.

Their flexible construction system can be quickly built to provide affordable accommodation for low-income communities, including the homeless, slum-dwellers and refugees all around the world.

More here: <https://www.newton-gcrf.org/impact/news/newton-prize-2020-winners-announced/>



Staff and Students' news

New staff

Dr Michael Hebda

Michael is the new Lecturer in Computer Aided Engineering in the Department of Mechanical and Energy Systems Engineering.

He graduated from the University of Bradford with a Product Design BSc and continued his studies in Bradford with a PhD focused on Fused Filament Fabrication (FFF) science, especially the calculation of the geometries of extruded polymer depositions.

He has a high interest in 3D printing, micro-CT scanning and polymer characterisation.



PhD viva success!

Ebtesam Taktek has successfully defended her PhD thesis entitled 'Pentagonal Scheme for Dynamic XML Prefix Labelling'.

Ebtesan was supervised by Dr Dhaval Thakker and Prof Dan Neagu.

Congratulations!



Dr Daniele Scrimieri wins the Monthly Publication Award

The Research Development Fund Monthly Publication Award for September 2020 was awarded for the following paper:

Afazov, S., Scrimieri, D., 'Chatter model for enabling a digital twin in machining', The International Journal of Advanced Manufacturing Technology 110, 2439–2444 (2020) <https://doi.org/10.1007/s00170-020-06028-9>

Warm congratulations!

Early Career Research Seminar (ECRF):

Dr Ibrahim Ghafir spoke about his work on Machine Learning for Cyber Security.

Dr Cristina Tuinea-Bobe gave the forum final advice on writing proposals.

Our next meeting is on 16 December 2020, 12 noon.

Staff and Students' news

Technicians Make It Happen

The Faculty of Engineering & Informatics Technicians are an integral and crucial part of delivery for the student experience, in both practical lab classes and support for research requiring manufacture, instrumentation and testing facilities. This covers a huge area of the University across three buildings - Polymer IRC, TV Studios and Broadcasting truck, Informatics loans counter, Heavy Structures, Hydraulics, Automotive, Engineering Labs, Engineering Workshops and Multidisciplinary Labs. Working in these areas in the background are our team of skilled technicians who make it all happen. Much input from our technical team goes into tasks not only in broadcasting, designing and machining parts, manoeuvring large beam structures or testing on various materials but also supporting our PhD, MSc and final-year students, as well as support for lab classes. In recent times the technicians have not only further developed their own specialist skills but have also been able to adapt to supporting all areas after the Faculty restructure. This year has also brought challenging times, some have been working throughout the lockdown to support the visitor production and others adapting to working from home on software and picking up skills needed for current and future projects, or to bring some of our practical lab classes to online learning.



Introducing our Faculty Technician's Representatives

The University has signed up to the Technician's Commitment an initiative created by the science council in conjunction with higher education authorities. The initiative was started as it was recognised that as technical staff retire, their knowledge and experience is not being passed on; this impacts on the quality of research and teaching undertaken within an institution, sometimes even limiting what can be planned, or resulting in projects or laboratories being shut down.

The Technician's Commitment has four main themes around visibility, recognition, career development and sustainability. As an overall goal it promotes professionalism and encourages registration through scientific bodies. To help in this aim we have some volunteer 'Technicians Representatives' - Joanna Wood (FoEI), Mark Filby and Damian Yeadon (FoLS). Joanna, Mark and Damian will be working with the management group to gather feedback from technical staff and plan events and initiatives that encourage participation at a level that suits individual technicians.

Thanks to Joanna, a Technicians SharePoint site is now available for all technicians at the University.

We are currently in our first steps and ask that any technical staff interested in contributing in any way to the above themes please get in touch.

