

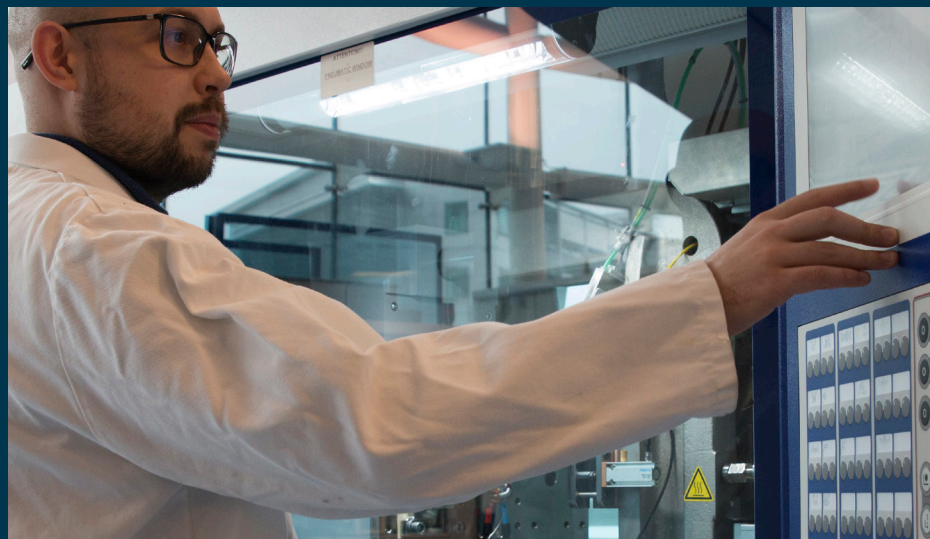


UNIVERSITY of
BRADFORD

Faculty of Engineering
& Informatics

Faculty of Engineering and Informatics Newsletter

February 2022



Welcome from the Dean

This month saw one of our graduates achieve success at the Lulea international Film Festival, Sweden. Ahseem Yousuf, a Film and TV Production graduate, won Best Student Film for his short film submission entitled 'Islam in Lockdown'. Congratulations to Ahseem.

I have recently been sent information from HR outlining the number of hours still to be taken in leave by academic staff before the end of July 2022. No doubt this is due to the build-up of holiday allocation which could not be taken as a result of Covid restrictions during 2019-2022 and 2020-21 academic years. However, please note that staff will only have a specified number of days that can be carried forward into the 2022-23 year, starting 1st August. I have asked line managers to discuss this matter on an individual basis with their direct reports regarding how these allocations can be best managed, given current workload priorities. If you have not heard from your line manager as yet, please be pro-active and contact him/her as soon as possible.

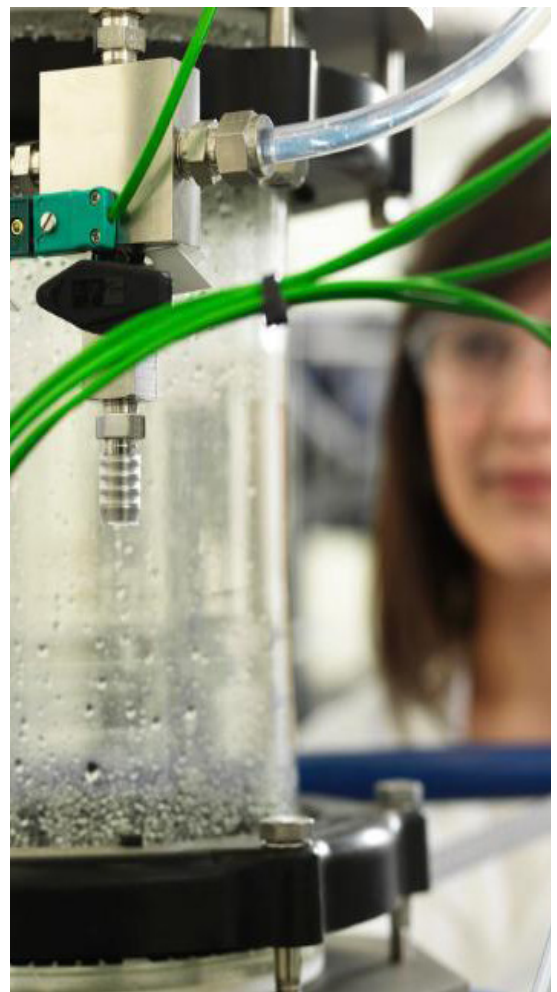
The new Academic Workload Model and WAMS system has now gone live with further information and guidance, including the new workload model handbook, at [Academic Workload Model](#) and [Workload Allocation Management System \(sharepoint.com\)](#).

Events have been taking place this month for the UN's International Day of Women and Girls in Science (11 February 2022). Our Faculty is proud of the contribution our female staff have made to the shaping of our activities, both on campus, nationally and world-wide. In the past, graduates from our University have been named in the top 50 list created for National Women in Engineering Day, compiled by the Daily Telegraph in collaboration with WES, featuring the UK's top influential female engineers chosen from almost 900 nominations.



Newsletter summary:

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



Time to Talk Day - The Power of Small

Time to Talk Day was introduced to get the nation talking about mental health. This year's event on 3rd February looked a little different, but at times like this when more and more people are experiencing issues with mental health, opening conversations about mental health is more important than ever.

By having conversations about mental health and how it impacts us, we can really start to bust those myths and break down barriers that stop people talking about their experiences or seeking support. Many people who experience poor mental wellbeing can feel isolated, ashamed, or overwhelmed and don't know where to turn or how to start talking about it.

More [here>>](#)

Academic in profile:

Dr Karen D Thornton



January 2022 saw my 25th year of working at the University and it feels fitting to reflect on my time here. I started when the University collaborated on a degree programme with the then National Museum of Photography, Film & Television, on the BSc Electronic Imaging and Media Communications. I was brought in to teach on the theoretical side of the programme, along with colleagues from Bradford College, including Dr Mark Goodall who has also managed to stay the distance. Jumping forward 25 years, I continue to be programme leader for the BA Film and Television Production degree, which I wrote back in 2007 when I was Undergraduate Courses Chair.

During the last 25 years I have been lucky to have focused my research and activities around two of the things that interest me the most; film and television. This includes organising two television-related conferences and being on the judging panel for more film festivals than I can remember, the most recent one being the New York Bushwick Film Festival in October, choosing the best short documentary submission. I have introduced film and television screenings, given talks across regional film theatres, run workshops and published articles and book chapters on documentary and issues relating to representation and class. These themes were explored in my doctoral research which examined the BBC, public service broadcasting and documentary practices, and I continue to remain fascinated with the ways in which reality is represented on-screen.

My latest book chapter, to be published in 2022, is 'Rolling Thunder Review and the (re)presentation of history' which explores the relationship between poetic documentary practice and the Martin Scorsese film. I have seen many changes in the last 25 years, and I look forward to the new challenges that lie ahead in the ever-changing landscape of film and television.



Current research interests:

- The relationship between neoliberalism and the representation of the working class on-screen
- Social realism and drama.
- Documentary and public service broadcasting.
- The philosophies of representation.

Research projects:

- New Postscripts: Reinventing J.B. Priestley's BBC Broadcasts for a diverse and contemporary Bradford with Dr Mark Goodall and Yunis Alam
- Working with the Schools of Sanctuary and Chris Hazell on a follow-up project to "This Is Me" which was an interactive photography exhibition exploring issues of self-representation with refugee and asylum seeker year 5 and 6 school pupils, for National Refugee Week 2020.

Research and Innovation

Projects pipeline:

- FractuRe Orthopaedic Rehabilitation: Ubiquitous eHealth Solution, Raed Abd-Alhameed
- Terahertz Communications for Mobile Heterogeneous Networks, Raed Abd-Alhameed
- Smart Grid Universal Storage Bus Systems (SG-USBs), Geev Mokryani
- New Postscripts, Mark Goodall
- Smart and Sustainable Manufacturing for the Baking Industry, Savas Konur
- Understand process-property interactions of PVOH water soluble polymers, Adrian Kelly
- Floreon packaging, Adrian Kelly
- Biome rehometry, Adrian Kelly
- Development of a digital twin for the manufacture of bespoke medical implants with improved tribomechanical characteristics, Daniele Scrimieri



Prof Ashour at Channel 4

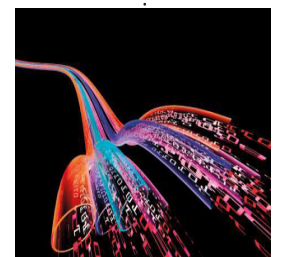
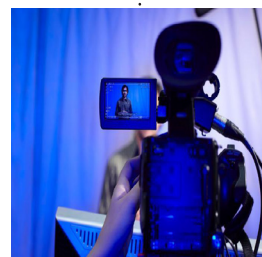
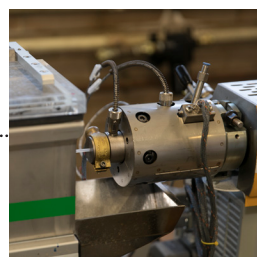
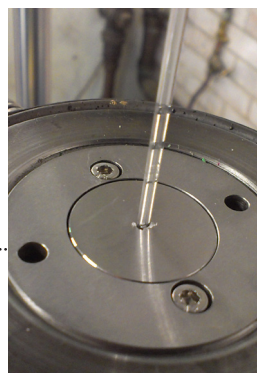
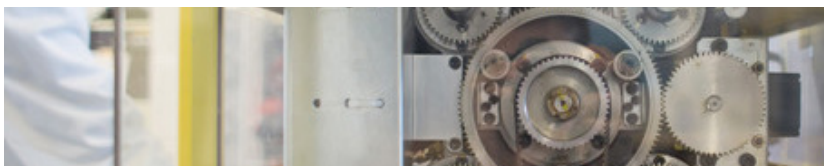
Channel 4 news were on campus on Tuesday 15 February 2022 to interview Professor Ashraf Ashour about 'green concrete', an eco-friendly form of concrete, also known as GreenLegoUse. The project uses waste building materials, as an aggregate, and precursors to create re-usable interlocking building elements. It explores methods of CO2 capture and storage in aggregates, contributing to achieving net-zero in the construction sector. The project won a Newton Prize award last year.

The ITN news crew (which produces news for Channel 4) spent about two hours on site, filming Prof Ashour and also post-doctoral researchers Musab Alhawat and Gurkan Yildirim.

The item can be viewed on Channel 4 news [here>>](#)

Open calls for funding:

- [Innovate UK Smart grants](#), Closing date: 13 April 2022 11:00 UK time
- [UK-South Korea collaborative research and development](#), Closing date: 6 July 2022 11:00 UK time
- [Knowledge transfer partnerships: 2022 to 2023, round one](#), Closing date: 6 April 2022 11:00 UK time
- [Pre-announcement: Turing AI World-Leading Researcher Fellowships: rounds two and three](#), Closing date: TBC



Staff and Students' news

CRC Press publishes Prof Hassan Ugail's book on deep learning

The book provides the reader with a unique insight into the explosive world of deep machine learning applied to visual computing. It contains easy to understand explanations with key examples in applied visual computing ranging from face recognition to image classification for diagnosis of cancer.

Prof Hassan Ugail is the Director of the Centre for Visual Computing and an advocate of AI for helping to tackle real world issues in the areas of digital health, innovative engineering and sustainable societies in general.

Hassan's most recent work helped to unravel the real identity of the two Russian spies at the heart of the Salisbury Novichok poisoning case - one of the biggest international stories of 2018.



Call for papers - special issue on Sensors in the section 'Internet of Things'

Dr Dhaval Thakker is the Guest Editor of this special issue that welcomes original research papers focusing on Artificial Intelligence (AI) techniques for improving the accuracy, quality and reliability of the data collected from LCS.

The following interest areas have been identified:

- Data accuracy in IoT systems;
- Data reliability in IoT systems;
- Data quality in IoT systems;
- Data standerization in heterogenous IoT systems;
- IoT data streaming.

Deadline for manuscript submissions: 10 June 2022. Manuscripts should be submitted online at www.mdpi.com by registering and logging in to this website

Read more [here>>>](#)

DEEP LEARNING IN VISUAL COMPUTING
EXPLANATIONS AND EXAMPLES

HASSAN UGAIL

CRC Press
Taylor & Francis Group
A SCIENCE PUBLISHERS BOOK

Staff and Students' news

SURE Research Projects Funding

Two of our Early Career researchers, Dr Daniele Scrimieri and Dr Sohag Kabir, were successful with their applications to the SURE funding scheme.

Daniele's project 'Automatic synthesis of manufacturing process controllers' will develop a software framework for modelling, analysing and synthesising process controllers for reconfigurable manufacturing systems that are highly adaptive and able to co-evolve with products, production processes and external environment.

Sohag's project 'Model-based Reliability Evaluation for Autonomous Systems with Evolving Architectures' will look to develop a mechanism to evolve the reliability models of a system with the evolution of its architecture, thereby providing continuous reliability evaluation of the system.

Congratulations!



Race Equality Week

The Centre for Inclusion and Diversity, supported by Dr Elaine Brown, AD EDI, organised the Race Equality Week between 7 - 13 February 2022.

As part of Race Equality Week, the following events were organised: 'Imposter Syndrome: Panel Discussion' chaired by Dr Yunis Alam Head of Department, Sociology and Criminology.

The second event 'Unlearning racism: Understanding the impact of microaggressions' provided an opportunity and a safe space for colleagues to share their perspectives, understanding and experiences of day-to-day microaggressions at work. It also presents a platform for everyone to listen, learn and talk.

Staff and Students' news

International Women and Girls in Science Day

To mark International Women and Girls in Science Day - February 11, 2022 - the University of Bradford spoke to two of its second year chemical engineering students about what inspired them to pursue their studies and hopes for the future.

The UN motto this year is - Full and equal access and participation for women and girls in science.

'Due to the gender gap... it is particularly important that we encourage girls and young women to consider STEM related studies' - Dr Elaine Brown

More about this events [here>>](#)



Dr Sohag Kabir Program Committee member of IMBSA 2022

The 8th International Symposium on Model-Based Safety Assessment (IMBSA 2022) will be held in Munich, Germany. It is co-located with the conference SafeComp 2022 (<https://safecomp22.iks.fraunhofer.de/>)

IMBSA is the key event in the field of MBSA bringing together the latest developments in model-based engineering, formal techniques, probabilistic analyses, cutting edge optimisation, and developments in artificial intelligence that address hard problems in the design of safe complex systems including software intensive and open cyber-physical systems.

More about the conference [here>>](#)

PGR student representatives

The following two students have been elected to represent PGR students on Faculty and University committees:

- Akhabue E. Richards - Chemical and Biomedical
- Mohammad Abou-Sahab - Civil and Mechanical Engineering

Please join us in congratulating them!



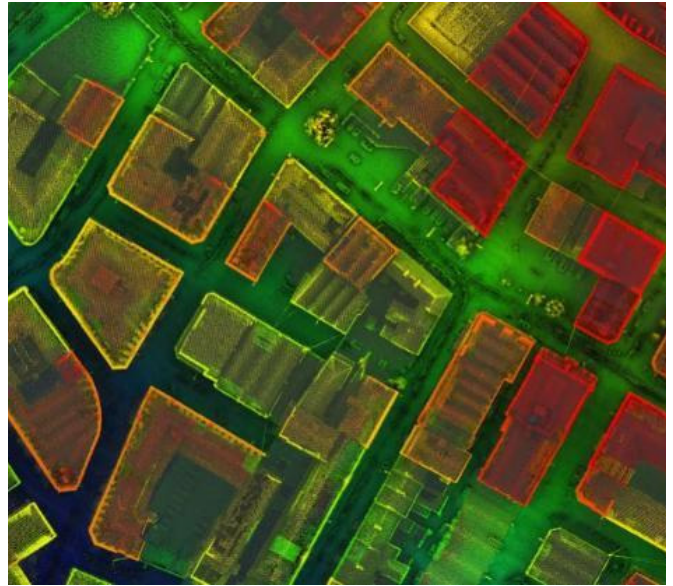
Staff and Students' news

Digital twin will enable '4D planning meetings' and virtual Victorian tours

In the near future people in Bradford will be able to explore virtual replicas of buildings before they are built, take tours of the city to see what it looked like in Victorian times, and check live pollution counts so they can decide which route is safest if they are on foot or cycling.

All of this activity - and more - will take place inside an online space called Virtual Bradford, a high resolution 3D online twin of the city centre, which is expected to be completed by the summer. The project is a collaboration between the University of Bradford and the Council, and part-funded by the European Union SCORE project where Dr Thakker is Co-investigator.

More [here](#)>>



5th Annual Innovative Engineering Research Conference (AIERC) 2022

The Annual Innovative Engineering Research Conference (AIERC) is organised by the Faculty of Engineering and Informatics at the University of Bradford and will take place on June 17, 2022.

AIERC aims to provide postgraduate students with a cross-functional platform to address critical issues and innovative solutions through practical discussions. It provides an opportunity for Master and PhD students to showcase their research and to receive feedback on their new research ideas or results in an early stage of investigation.

More [here](#)>>



Staff and Students' news

Plans to launch a mini-satellite into space by 2023

Students enrolling on the University of Bradford's new Renduchintala Centre for Space AI MSc Satellite Systems Engineering programme - due to launch in September 2022 - could benefit from £10,000-a-year scholarships and work with industry experts, including Airbus.

The Centre's Director has also set out ambitious plans to develop and launch a miniature satellite, known as a pocket cube, into space, possibly by 2023. The palm-sized devices, no bigger than a Rubik's Cube, contain an array of instruments, and because of their size, they are much cheaper to launch than larger satellites. Prof Fun Hu, the Programme Leader and inaugural Centre Director of the recently established Bradford-Renduchintala Centre for Space AI, is a former satellite systems engineer said: "It is something we are keen to do, and we have already been in touch with a launch company about the possibility."

More [here](#)>>



Dr Nejat Rahmanian Outreach Activities

Dr Rahmanian arranged for Mr Adrian Finn, Process Technology Manager at [Costain](#), to give a seminar to stage 3, 4, Masters and PhD students in Chemical Engineering on Natural Gas Processing and Gas Processors Association Europe. Adrian talked about global energy changes and current issues of global warming and its impact on the energy sector.

The University of Bradford is a corporate member of GPA Europe and FREE membership is applied for our students. More details on membership can be found [here](#)>>

Nejat secured an industry-based PhD project at Qatar Shell. The project will address the use of electrochemical CO₂ cell conversion for the treatment of industrial wastewater from gas-to-liquid (GTL) process plant and integrate the (eCO₂C) with the existing effluent treatment plant in GTL. Prof. Mujtaba is the second supervisor of this project.



COSTAIN

Staff and Students' news

New staff - Bernard Atuahene

Bernard holds a MPhil., BSc (Hons) in Construction Management from the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. He practiced as a part-time Quantity Surveyor and Graduate Assistant after graduating from his undergraduate program. His Masters research focused on Organizational Culture in the Ghanaian Construction Industry.

His PhD investigated the application of big data in the construction process.

He previously worked as a Lecturer at Swinburne University of Technology Sydney, and at the University of Newcastle Australia.

More about Bernard [here>>](#)



Early Career Research Seminar (ECRF)

Smriti Kotiyal presented her research and KTP project - AI Lawyer - Bringing AI and Law Together

Stephanie Abraham delivered an introduction to the University Business Partnerships strategy

Our next meeting is on 16th March 2022, time TBC, and is followed by the Stakeholder Analysis Workshop at 14.00.



