



UNIVERSITY of  
**BRADFORD**

Faculty of Engineering  
& Informatics

# Faculty of Engineering and Informatics Research and Knowledge Transfer Newsletter

February 2020



# Welcome from the Dean

The Newsletter aims to celebrate our staff and students' success within the Faculty, additions to our research capabilities and highlight the working partnerships with other research institutions, industry and government.

Every month the newsletter will feature an academic and research staff profile where we will highlight their interests, skills and outputs.

We would like you to take this opportunity to advertise your achievements, to tell us what you would like to hear from us and how we can keep you better informed.



## Newsletter summary:

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

## Bradford named UK's University of the Year for Social Inclusion

The Times and Sunday Times have named the University of Bradford as the UK's University of the Year for Social Inclusion 2020.

Key achievements at the University of Bradford include:

- More than 70% of its intake is BAME
- More than 50% of students are from the most socio-economically deprived areas;
- The number of students coming to the University of Bradford from postcodes where traditionally participation in higher education was lowest is rising faster than in the rest of the UK as a whole;
- One of the lowest black attainment gaps in the country (comparing the proportions of black and white students who gain firsts or 2:1s);
- Continuation rates of students drawn from the most deprived areas is 92% compared with the sector average of 85.9%.



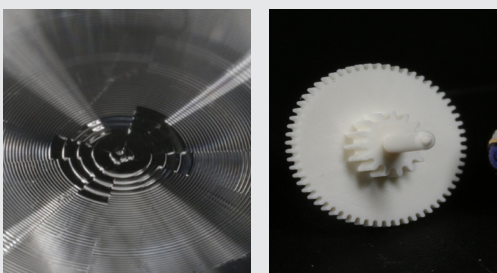
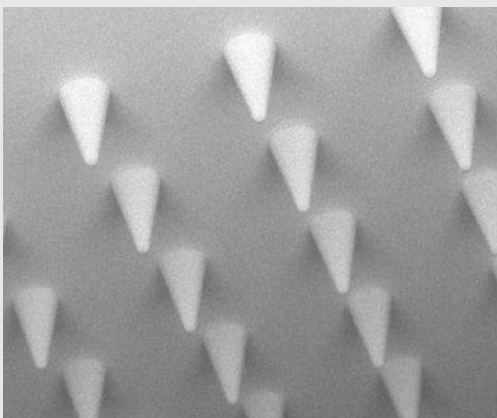
# Academic in profile:

## Professor Ben Whiteside



After completing a Physics degree at the University of Leeds, Ben joined Bradford in 1997 to study a PhD studying 'Simulation and validation of glass fibre orientation in automotive injection mouldings'. This led to an EPSRC-funded Post-Doctoral opportunity researching the emerging field of micro-injection moulding (micromoulding). Ben has grown activities significantly from these early days, and over the last decade, he has attracted grant funding and industrial contracts worth in excess of £5m.

He is now Director of the Centre for Polymer Micro and Nano Technology which has quickly established a reputation as a key research facility in Europe and is recognised worldwide for excellence in the field of ultra-precision polymer manufacturing techniques. The Centre provides an innovative research environment, building activities from core fundamental science investigations of material behaviour and property optimisation, to more applied developments of novel process techniques and complementary technologies such as bespoke positioning, assembly and product quality inspection systems. Strong links with industrial partners nationally and internationally ensure that the technologies developed at Bradford are implemented in real manufacturing process chains resulting in higher performance, lower cost and more sustainable products.



### Current research areas include:

- Characterisation of polymers and nano-composites / suspensions
- Studies of polymer crystallisation kinetics in extreme process environments
- High speed optical and thermal imaging of micromoulding flows.
- Novel sensor development
- Characterisation technique development using AFM, nano-indentation, micro-mechanical testing, optical profilometry and nano-DMA
- Manufacturing process development including QA monitoring systems for optics, medical devices, implants, pharmaceutical/polymer systems.
- Process fingerprinting for monitoring and control
- Nano-scale surface structuring for functionalised surfaces

# Research and Knowledge Transfer

## Selected awarded projects:

- EU H2020 Marie Skłodowska Curie ITN PCA eBorder, Prof Raed Abd-Alhameed, Prof Rami Qahwaji
- EU H2020 SESAR programme - SINAPSE, Prof Fun Hu
- Innovate UK Planning, integration and Control of Microgrids with Renewables and Energy Storage (Pi-CREST), Dr Geev Mokryani
- Bill & Melinda Gates Foundation EMBED 2.0, Prof Ben Whiteside, Prof Adrian Kelly



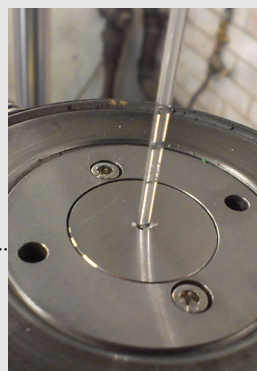
## Submitted projects:

- EU H2020 Marie Skłodowska Curie ITN proposal – INTEGRIDTY, Prof Fun Hu, Dr Geev Mokryani
- EU H2020 Marie Skłodowska Curie ITN proposal – 5GPLANE, Prof Raed Abd-Alhameed, Prof Rami Qahwaji, Prof Fun Hu
- RAEng - A new Heavy metal treatment process using a bio-adsorbent based on modified olive leaves bio-mass, Prof Tim Gough, Dr Mohammad Isreb



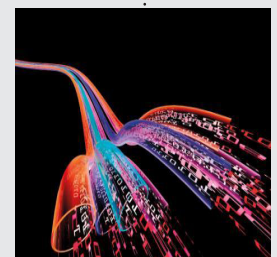
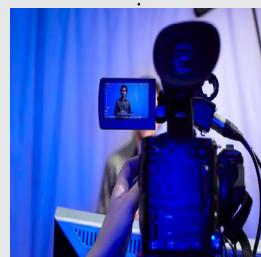
## Open calls for funding:

- Manufacturing the Future: Standard Research Proposals, closes 31 March 2020 at 16:00
- Enabling Research in Smart Sustainable Plastic Packaging, closes 16 June 2020 at 16:00
- Discipline hopping in information and communication technologies, no closing date
- Healthcare Technologies: Call for Investigator-led Research Projects, no closing date



## KT projects:

- Floreon, National Breakdown, Tough Water Solutions, Siddall & Hilton Products Ltd, Xalient Limited, Croda, etc.



# Staff and Students' news

## New Staff/Students

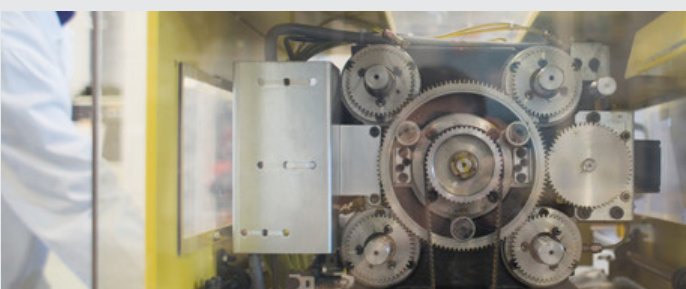
**Dr Mai Elshehaly** - Computer Science  
Research interests: Visual fusion of heterogeneous data sources for cognitive model construction. Opening the black box of machine learning techniques through visual analytics. Task analysis for design and evaluation of visualizations. Prior experience in use of High Performance Graphics in visualization of time-variant volumetric data, including GPU techniques for real-time interaction. Mai worked previously as a research fellow at the Leeds Institute for Data Analytics (LIDA) investigating visualization methods for National Clinical Audit (NCA) data, as part of project QualDash.



Email: [m.elshehaly@bradford.ac.uk](mailto:m.elshehaly@bradford.ac.uk)

## PhD success:

- ALHASSAN Haru - Prof Raed Abd-Alhameed, Dr Jim Noras
- AHMED Adeel - Prof Fun Hu
- MOHAMMED Buhari - Prof Raed Abd-Alhameed, Dr C H See
- MAKINDE Omololu - Prof D Neagu, Professor Marian Gheorghe
- ALMASHAQBEH Sahar - Dr Eduardo Munive-Hernandez, Prof MK Khan
- MUSTAPHA Oba Zubair - Prof Fun Hu, Prof Raed Abd-Alhameed
- OGUNTALA George - Prof Raed Abd-Alhameed, Dr Jim Noras
- ALI Najat - Prof D Neagu, Dr Paul Trundle
- MIRZA Ahmed - Prof Raed Abd-Alhameed, Dr Jim Noras
- RADO Omesaad - Prof D Neagu, Prof A Kellehear
- KORSUNOV Alex - Prof Felician Campean, Prof A Wood
- MAIYAMA Kabiru - Prof D Kouvatso, Dr M Kamala
- ANWAR Waqas - Dr Eduardo Munive-Hernandez, Prof M K Khan



# Staff and Students' news

## Publications:

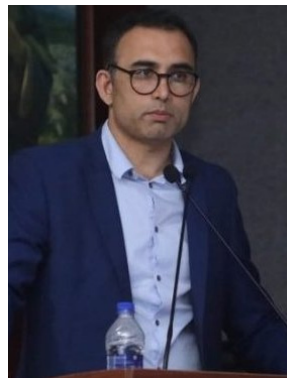
Dr Farshid Sefat published the paper titled: The versatile biomedical applications of bismuth-based nanoparticles and composites: therapeutic, diagnostic biosensing, and regenerative properties - as result of his research collaboration with University of Helsinki (Finland), University of Cologne (Germany), Zanjan University (Iran) in the prestigious journal 'Chemical Society Reviews', with an impact factor of 40.44.

- Link to the publication: <https://pubs.rsc.org/en/content/articlelanding/2020/cs/c9cs00283a#!divAbstract>
- Email: [f.sefat1@bradford.ac.uk](mailto:f.sefat1@bradford.ac.uk)



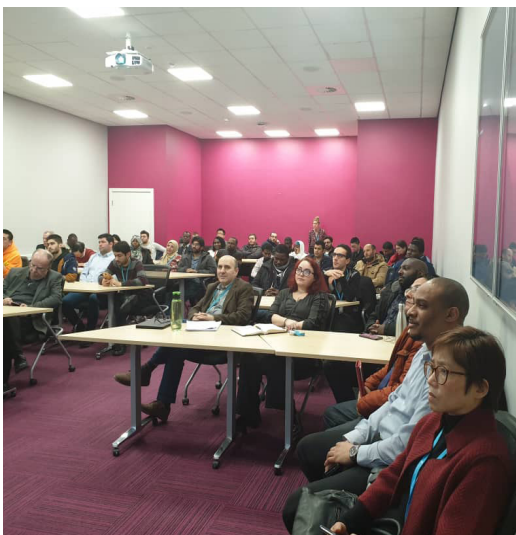
## FEI Seminar Series:

- Launched on 5th of February 2020
- A £200 reward each month for the best presentation
- Presentations to date: Babagana Modu supervised by Dr Savas Konur (A Holistic Approach to Dynamic Modelling of Malaria Transmission) and Ahmed Maan Abdulkhaleq supervised by Prof Raed Abd-Alhameed (Load Modulation Amplifier: A Solution For Improving 5G Mobile Base Stations Efficiency).



## Early Career Research Seminar (ECRF)

- Launched in October 2019
- First scientific presentation of the ECRF series was by Dr Paul Spencer on Finit Element Modelling of Polymers
- Next meeting date: 18 of March 2020
- Next resenation by: Dr Amr R AAbdullatif



## New PhD projects:

- [1] Title: Design and Optimization of Horizontal Axis Diffuser Augmented Turbines Using Computational Fluid Dynamics (CFD) Techniques - Candidate: Waleed Khalid
- [2] Title: "Ecoefficient constructions and construction materials" - Candidate: Saeed Morsali.
- [3] Title: Secured communication in oil and gas exploration field using a reliable protocol in (MANET) - Candidate: Muhsin Saleh Hassanu



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