

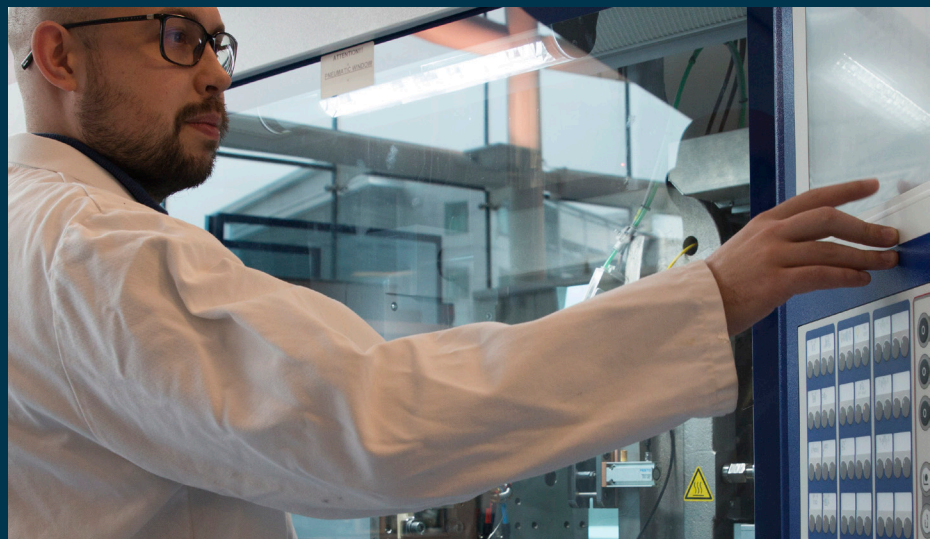


UNIVERSITY of
BRADFORD

Faculty of Engineering
& Informatics

Faculty of Engineering and Informatics Newsletter

March 2022



Welcome from the Dean

As we draw towards the vacation period, with the formal teaching period pausing after 1 April 2022, I would like to thank everyone in the Faculty for their efforts so far in Semester 2. This is a good time to review your annual leave entitlement and book some time to relax away from work. Your line manager should by now have spoken to you if your remaining allowance is very high, as there are strict limits on what can be carried forward into the next academic year.

May is a significant month for our research activities as the results of the REF2021 exercise will be published on 12 May 2022. Fingers crossed for our submissions in Computer Science and Engineering.

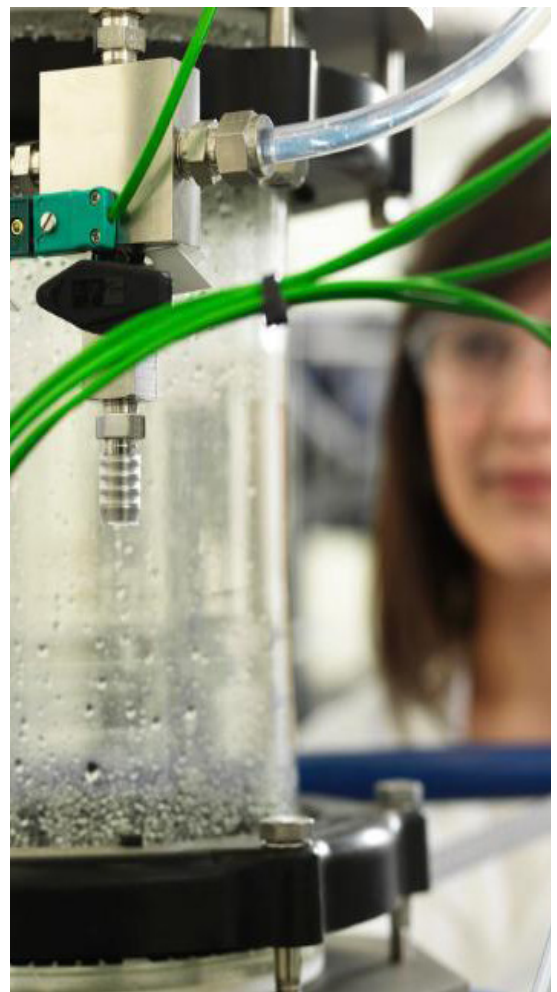
Following the appointment of Dr Fin Caton-Rose as the Head of MDT, we are seeking a new academic Digital Lead for the Faculty. If you are potentially interested, please contact Professor Iqbal Mujtaba via Natasha Sharrod for further details.

We are also seeking a Faculty representative for the University level Safeguarding Steering Group from all staff members in the Faculty. This may be of particular interest to those of you who have experience as a school governor outside of work. There are four meetings per year and Sue Hinchliffe can provide more details.



Newsletter summary:

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



Can You Hear Me?

On 7th March the Centre for Inclusion and Diversity invited us to attend the 'Unlearning racism: Understanding the impact of microaggressions' event, part of our 'Can You Hear Me' seminars.

The event provided an opportunity and a safe space for colleagues to share their perspectives, understanding and experiences of day-to-day microaggressions at work. This was a platform for everyone to also listen, learn and talk about microaggression, its impact and why it is important to tackle cases of microaggression to reduce or eliminate the negative impact on those who experience it, particularly our BME staff.

Academic in profile:

Professor Felician Campean

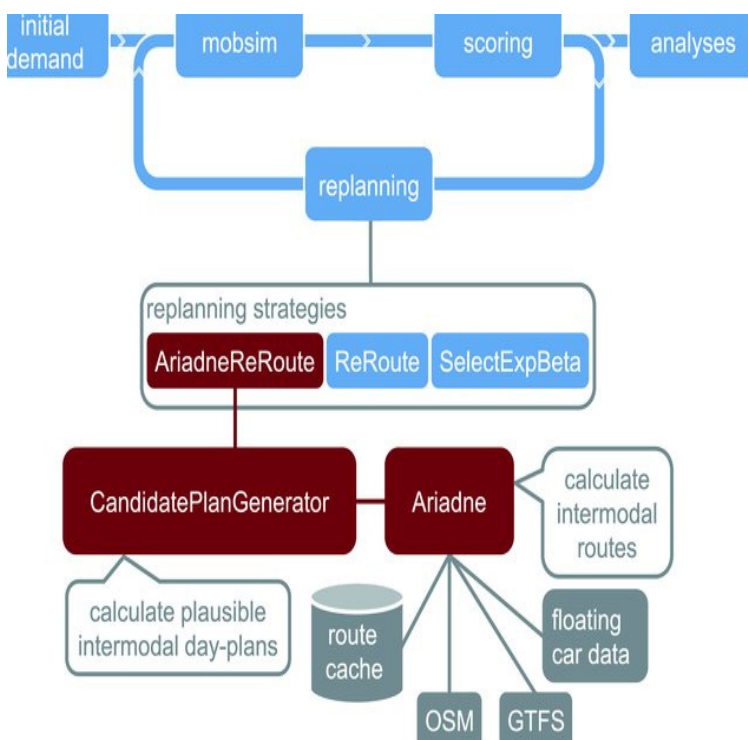


Felician is a Professor in Automotive Reliability Engineering and Director of the Automotive Research Centre (since 2012). He holds a PhD in Reliability from Brunel University and a Mechanical / Manufacturing Engineering Degree from Transilvania University. He worked in the bearings industry before joining Academia as a lecturer in manufacturing automation. He joined University of Bradford in 1998 as Research Fellow, and progressed to Senior Research Fellow (2000), Senior Lecturer in Competitive Design (2005), and Professor in 2011. Felician has led the Bradford Engineering Quality Improvement Centre (BEQIC) since 2000; BEQIC is a major hub for collaborative applied research and knowledge transfer in product development, with a focus on quality and reliability engineering. He has led several major programmes of workplace based research and postgraduate development including the MSc by research / MPhil / PhD in Engineering Quality Improvement (partnership with Ford Motor Company) and the MSc in Engineering and Process Excellence (partnership with Jaguar Land Rover - Technical Accreditation Scheme) - underpinned by a programme of research led short courses. Since 2012 Felician has been leading the Automotive Research Centre, the University's R&KT Hub for collaboration with the Automotive Industry. In 2016 he has launched together with Professor Daniel Neagu (Computer Science) the Advanced Automotive Analytics Laboratory - in collaboration with Jaguar Land Rover.

Felician has established an extensive track record research and knowledge transfer collaboration with the global automotive industry, including companies like Ford, Jaguar Land Rover, BAE Systemns, Tata Motors, Honda, Cummins Turbo Technologies, Webasto, and Gates Corporation.

Major recent research projects have focused on engine and powertrain multidisciplinary modelling and optimisation, automotive model-based systems engineering design based on Failure Mode Avoidance, the use of big data analytics for intelligent personalised powertrain healthcare, model based testing and verification of CPS.

Felician has taken on the role of Associate Dean - Research & Knowledge Transfer in the Faculty of Engineering and Informatics since January 2017.



Current research interests:

- Modelling complex systems, including model based methods for systems engineering, reliability, robustness and resilience analysis for multi-disciplinary complex systems
- Big data analytics methods for systems design and lifecycle management, multi-disciplinary design optimization applied to complex systems
- Modelling complex manufacturing and product development processes.

Research projects:

- NextGenDrive—Autonomous Robotic Micro Factories (Innovate UK APC)
- PoC - Reliability-Based Control Feature Optimisation with Driver Behaviour Insight
- SAFI Delivery Programme

Research and Innovation

Projects submitted:

- Development of an electrospun antimicrobial coated tampon for management of bacterial vaginosis, Farshid Sefat
- Circular Economy Platform for Reducing E-Waste (2), Dhaval Thakker
- NIHR Yorkshire and Humber Patient Safety Research Collaboration, Mai Elshehaly
- MotiVar 2 - Programme Development Grant, Hassan Ugail
- Advancing Mental Health and Wellbeing in Adolescents using Participatory Approach, Kate Johnson

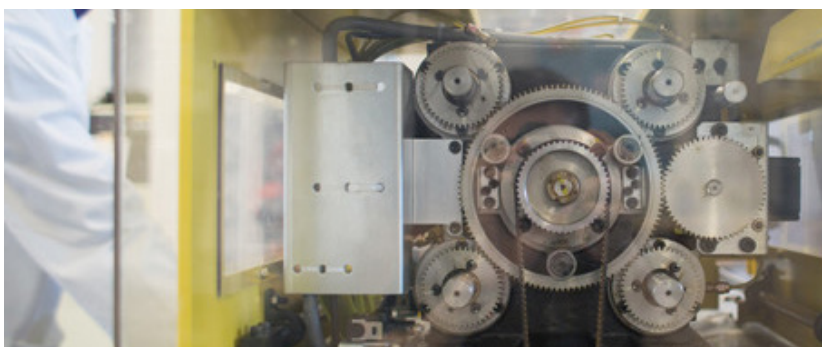


Smart Industrial Systems Workshop

The FoEI Strategic Research Landscape exercise carried out in 2021, setting up the research environment for the next REF period, has identified four overarching research themes for the Faculty - Smart Health Systems, Sustainable Environments, Advanced Materials and Smart Industrial Systems. This exercise was driven by the individual PRIPs returned by academic staff and the RGAPs (Research Grant Action Plans) produced by the Research Centres and Groups.

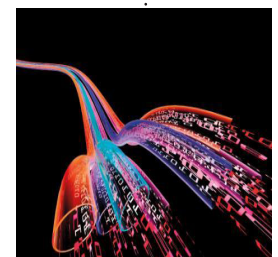
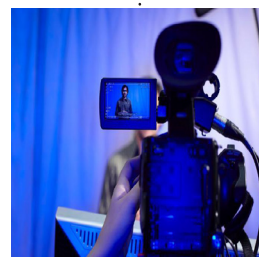
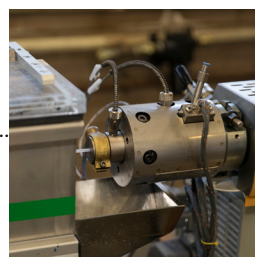
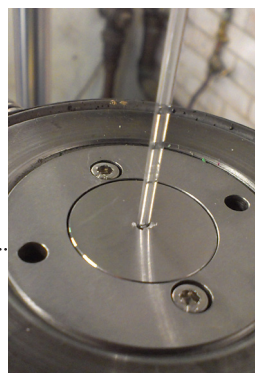
A Smart Industrial Systems workshop was arranged on 23rd February for active researchers who have an interest in engaging in activities relevant to this theme.

The workshop identified 4 areas of interest: Sustainable Materials and Processes, Systems Reliability & Resilience, Smart Grids and Space Technology & Systems, and Industry 4.0 Intelligent Systems.



Open calls for funding:

- [Innovate UK Smart grants](#), Closing date: 13 April 2022 11:00 UK time
- [Pre-announcement: Manufacturing research hubs for a sustainable future](#), closing date 7 June 2022 16:00 UK time
- [Innovation in time resilience, dissemination and application, feasibility](#), closing date 1 June 2022 11:00 UK time
- [Sandpit: trustworthiness of autonomous robotic systems for national security and defence](#), Closing date: 18 April 2022 16:00 UK time



Staff and Students' news

EDI Resource bank - EDI Conversations

EDI Conversations is an online lunchtime reading and discussion group that meets every few weeks to discuss an article / blog post / web resource related to EDI. It is open to all university staff and students. Each month a resource will be highlighted on the library website and linked here on the EDI resource bank. Suggestions for items to discuss are welcome and should be sent to the [Dr Elaine Brown](#).

The aim is to create an accessible and inclusive space for discussion of EDI topics. We have some general ground rules below which we ask all attending to follow.

- We will read and discuss a range of academic and non-academic texts and other resources such as videos, podcasts and webinars.
- Everyone is invited to participate equally. Remember that not everyone has experience with reading groups; be generous with and patient towards others and yourself.
- Respect the experiences of others; acknowledge that lived experience shapes understanding and perspective. You do not have to discuss – or disclose – your own experiences and identifications; equally, do not ask others to discuss or disclose theirs.

More [here](#)>>



Barclays & Capgemini Elevate University Challenge: UoB team in top 5

A team of students (Israa Khan, Year 1 BSc Computer Science, Umar Farooq, Year 1 BSc Computer Science and Delia Neagu Year 2 BSc Computer Science for Cyber Security) from the University of Bradford's Department of Computer Science, coached by Professor Daniel Neagu, was placed in the final top 5 teams in this national competition (against teams with large cohorts of MSc student members, from Lancaster, Manchester, Aston, Northampton etc).

The team proposed a solution to help Barclays and Capgemini customers 'go greener' by integrating a feature into the Barclays application which will allow the customer to track their contribution to climate change and try to reduce their carbon footprint through the means of an ESG index/score. The development of the app took 4-months to prepare and finalise.

The team would like to thank Prof Alastair Wood for funding their participation, and Yvonne Western for her prompt assistance.

Congratulations!



Staff and Students' news

Students given tour of Bradford Live's Odeon project

The visit was organised by Professor Mostafa Mohamed, Head of Civil & Structural Engineering in the Faculty of Engineering & Informatics. Several staff and around a dozen students were taken around the interior of the building by RN Wooler site manager, Harvey Craven, who explained some of the construction methods used in the original 1930s build and alterations made in the 1960s, together with the current plans to revive the iconic building. Originally built in 1930, the magnificent art deco building is undergoing a multi-million pound restoration thanks to Bradford Live, a not-for-profit distribution social enterprise, led by local business people, to create a live music venue after inviting developers to submit commercially viable ideas for the building.

Third year civil engineering student Anisa Tariq said: "I really enjoyed the tour because it gave us a chance to see the things we have been learning about in class in practice, and it gave us a good insight into construction."

More [here](#)>>

Dr Panesar - host and organiser European Chatbot and Conversational AI Summit

The European Chatbot & Conversational AI Summit, a two-day conference and exhibition held on 1-2 March, 2022. Hosted by industry executives, and adopters of Conversational AI, Chatbots, Virtual Assistant, Voice Technology and Conversation Design, the event reflected the latest tendencies and recent application changes in the Conversational AI space in the European market.

Kulvinder was the host and organiser of panel discussions for the theme 'Conversational AI applied & research stage - Multifunctional conversational AI and future dialogue challenges (virtual access)'.

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



Staff and Students' news

Dr Jaan Pu's New MDPI Book and Frontiers Journal's Permanent Associate Editor Position

Jaan has edited a book (a combination of 8 high quality journal articles, including 1 editorial and 7 research articles) entitled 'Environmental Hydraulics, Turbulence and Sediment Transport'. This book forms a collection of state-of-the-art research and technologies to give useful guide for the hydro-environment research and engineering communities. Its PDFcopy is free to download [here>>](#), while its hardcopy costs GBP42.98.

He has also been recently appointed as an Associate Editor for the Journal '[Frontiers in Environmental Science](#)'. This Journal has an impact factor of 4.581, which is ranked as Q1 Quartile by SJR and SCI-indexes, and publishes research at the cutting edge of knowledge of our natural world and its various intersections with society. It bridges between the identification and measurement of change, comprehension of the processes responsible, and the measures needed to reduce their impact. Its aim is to assist the formulation of policies, by offering sound scientific evidence on environmental science, that will lead to a more inhabitable and sustainable world for generations to come.



Jacqui Griffin successful Screen Industries Growth Network HEI Partnership funding

Jacqui's project entitled 'Research into Bradford Communities' Youth and Careers in the Creative Industries' aims to collect and collate data on the career goals of young people in the Bradford region, with an emphasis on those from minority groups and disadvantaged socio-economic backgrounds.

The objective is to gain a greater understanding of not only the dominant career path choices, but the reasons behind these choices. An additional objective is to gain insight into how much knowledge and understanding currently exists about career paths in the creative industries. To ensure success and a large enough data subset, we will need at least 500 respondents between the ages of 16-18. We will aim however, to achieve at least 1000 respondents, with at least 500 of those being between the ages of 16-18 and at least 200 between the ages of 11-15.

This activity will support the SIGN project's stated goal of inclusive growth by identifying cultural and socio-economic attitudes towards creative industries.



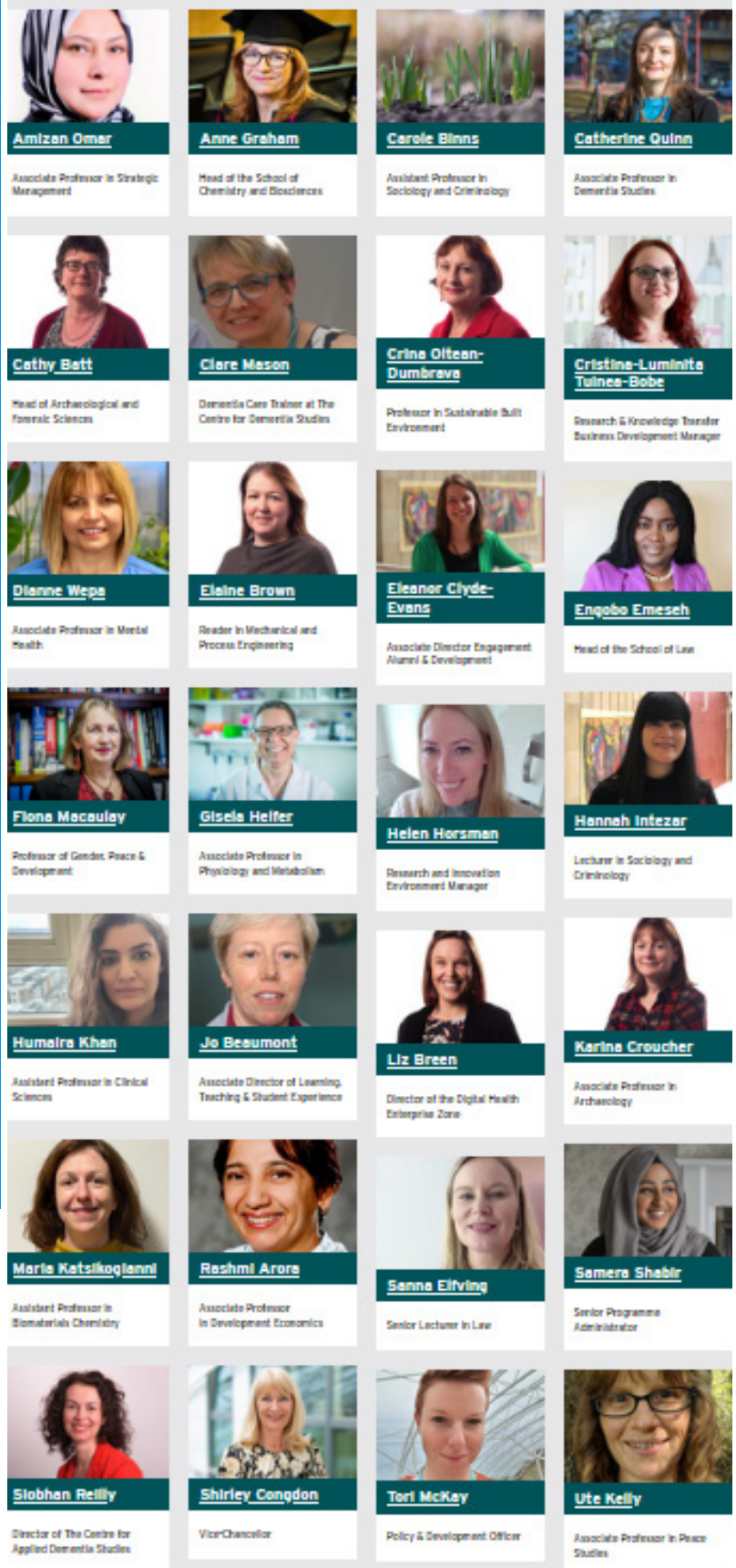
Staff and Students' news

International Women's day – Break the Bias

In honour of this year's International Women's Day, and in line with the 2022 theme Break the Bias, UBU and the Ahmadiyya Muslim Women Students' Association (AMWSA) held an event celebrating the individuals who are overcoming stereotypes and striving for a world free of bias and inequality and discussing how we can all do the same.

Whether it's empowering more women in STEM jobs and management roles, diversifying the workplace, striving to close the gender pay gap, or breaking down stereotypes about British Asians and Muslim women in the local community, there are so many ways in which people are breaking the bias against women.

More about the events [here>>](#)
The University also created an [Inspirational women at the University](#) page to celebrates the achievements and accomplishments of women in all roles.



International Women's Day
2022
#BreakTheBias
8th March

Staff and Students' news

Paper by Bradford team wins the 2022 Society of Tribologists and Lubrication Engineers (STLE) Walter D. Hodson Award

STLE recently awarded a prize for the paper: [Representative Tribometer Testing of Wire Rope Fretting Contacts: The Effect of Lubrication on Fretting Wear](#), *Tribology Transactions* by Dyson, C.J., Chittenden, R.J., Priest, M., Fox, M.F. and Hopkins, W.A.

STLE is the largest professional body for tribology globally and Martin Priest is a Fellow of STLE.

Chris Dyson works at ROCOL Lubricants in Swillington, Leeds, and is a member of our Mechanical and Energy Systems Engineering Industrial Advisory Board. The prize focuses on him as a successful early career researcher. Chris is working on student and research projects with Kavian and Martin, and also gives guest lectures on our 3rd year undergraduate module Materials Failure Analysis and Reliability.

Malcolm Fox is a visiting professor in the Faculty, Richard Chittenden is a very long term (35 years) research collaborator of Martin at the University of Leeds, and Bill Hopkins is from Rocol (recently retired).

More [here](#)>>



PhD success

PhD student Tehmeena Israr Raja supervised by Prof Ben Whiteside has successfully defended her PhD thesis studying the performance of state of the art engineered anti-fouling / anti-microbial surfaces using laser machined tooling and injection moulding processes at the micro and nano scale.

Congratulations!



Dr Innes publication in Polymers

Rob's paper entitled 'Graphene Nanoplatelets as a Replacement for Carbon Black in Rubber Compounds' published in 'Polymers' shows that the inherent properties of GNPs along with their geometry led to the production of better-performing rubber compounds that can replace their CB-filled counterparts in applications where flexibility, tear strength and compliance are important.

View full text [here](#)>>



Staff and Students' news

Professor Ugail was invited to speak at the World Police Summit

The World Police Summit, held at the Expo 2020 in Dubai, took place between 14th and 17th March 2022 and was inaugurated by Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Executive Council of Dubai.

Professor Ugail - who has strong research collaboration with Dubai Police - was invited to speak at the summit. His talk focussed on the role of artificial intelligence in supporting criminal cases through novel tools, and strategies in digital forensics.

With over 2000 delegates, 10,000 visitors from over 50 countries, 150 exhibitors, over 50 police chiefs and with 6 parallel conferences, the World Police Summit this year was the global meeting place for senior, international police and law enforcement officials and professionals to connect with governments, policy makers and sector professionals to discuss the key priorities shaping the future of policing.

More [here](#)>>



Early Career Research Seminar (ECRF)

Dr Rameez Asif delivered his presentation entitled 'Signal Modulation Classification Using Machine Learning in Safety-Critical Networks'.

Dr Cristina Tuinea-Bobe gave a presentation on costing research projects.

Our next meeting is on 20th April 2022, 13.00, and is followed by a 'Shut-up and write' session.

More [here](#)>>

TOP SPEAKERS INCLUDE:



Lt. Col. Dr. Rashed Al Ghafrri Director of Training & Development Department, General Department of Forensic Sciences & Criminology Dubai Police



Dr. Joshua James Consultant - Cybercrime & Darknet Research United Nations Office on Drugs and Crime (UNODC)



Prof. Hassan Ugail Professor of Visual Computing University of Bradford

