

1 a) Speaker 1

Peter Rudge

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‘Platform: The Moving Image Cluster’

Platform, the Moving Image Cluster for Stoke on Trent and Staffordshire was launched one year ago. The last twelve months has seen the cluster have a considerable impact on the local moving image economy and the visibility of the region as a location for innovation and production in digital content. This presentation will look at the specific impacts the cluster has delivered over the last twelve months and look ahead to forthcoming projects.

1 a) Speaker 2

Md Asaduzzaman

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‘The transformative power of 5G: research, funding and industry collaboration’

There has been a significant growth of telecommunication industry since 1980 when the first-generation networks were introduced. The first-generation networks only carried voice whereas the second generation (2G) networks launched in the 90s which were digital, introduced features like text and picture messages. Over 2000-09 period, the third generation (3G) which started to include video calling and mobile data. Over last 6 years, 4G networks were designed to support mobile internet and high-speed video streaming and gaming. Now we are in the early stages of the next technological revolution, the development of a ubiquitous wireless network, 5G which is hoped to provide us with unprecedented insights and abilities with data collection and computation with billions of devices.

Clearly, 5G is going to a technological paradigm shift with fully connected intelligent sensors, devices and systems, capable of overhauling economic and business policies. It will be capable of providing seamless, continuous connectivity for automotive, manufacturing, healthcare, retailers, business and finance applications. The Future Connectivity Challenge Group report suggests that 5G could result in the opportunity to create £173 billions of incremental UK GDP growth over a ten-year period from 2020 to 2030 (GOV, UK).

Despite the enthusiasm, a number of key issues are involved with 5G, for instance, the ultra-dense networks set up, spectrum management with a limited capacity, etc. In this talk, some recent works of the speaker, published in IEEE Transactions on Vehicular Technology, IEEE Transactions on Wireless Communications, and top conferences will be briefly discussed highlighting their impacts.

1 a) Speaker 3

Ruth Carter

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‘The impact of a Perinatal Peer Support intervention on women with perinatal mental health issues’

Mental health problems in pregnancy and the postpartum period often need more urgent intervention than at other times because of their potential effect on the fetus/infant and on the woman's physical health, in addition to her ability to function and care for her family (Department of Health, 2015). The role of peer support worker (PSW) is based on the premise that people with similar experiences can authentically support others with similar issues (Carter et al.,2018).

PSWs who had experienced mental health issues in their own pregnancy were facilitated to support mothers in the puerperium who had been identified as having low mood. The intervention was in the form of a listening/talking visit for one hour a week for 6 weeks in an environment that the participating mother felt comfortable within. Results from pilot and feasibility randomised controlled trials have been positive and informative. Impact from this research is that the NHS is now considering utilising PSWs to provide support to women with perinatal mental health issues. The research team have disseminated the findings from this study to a wider audience both in the form of publication and presenting nationally and internationally. In addition, the team have developed a large network of fellow researchers working within this field. Reflections and information gained from pilot and feasibility studies have been utilised towards a bid for funding for a large scale study focusing upon the impact of peer support to mothers with perinatal mental health issues.

1 a) Speaker 4

Jess Power

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‘The power of challenge-led learning’

It is widely accepted that innovative/sustainable solutions for complex global-challenges reach beyond a discipline boundary or single methodological approach, and as such the practical argument for embedding interdisciplinary collaborations into Higher Education (HE) is strong and supported by policy makers, funding councils and professional bodies. A model is presented for integrating interdisciplinary challenge-led learning into HE, to build communities for learning through knowledge co-creation. A case study is presented for integrating challenge-led learning into the UG experience based on evidence gathered during 2012-2017. Two contrasting frameworks are used, introducing complex global challenges and commercial challenges into an interdisciplinary context. The research evaluates challenges, successes and provides a synthesis of impact. It is a blueprint for experiential learning in practice, and a best practice example which could be simulated across the sector. The connected approach overcame institutional, discipline and individual barriers within the sector to foster a culture of integration across disciplines. It transcendence traditional discipline boundaries, created a platform for new forms of knowledge-sharing and enabled students to develop a tool belt of transferable skills. Impact can be demonstrated, firstly in the development of student skills (problem solving, resilience, networking and metacognition), a number of case studies have been published. Secondly the wider impact on society is demonstrated through staff participants being shortlisted for internal awards and students group participating in international competitions resulting in social mobility. And finally there are quantifiable benefit to the region and economy through impact within the commercial sector.

1 b) Speaker 1

Jon Fairburn

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‘Influencing policy and guidance at the World health Organisation’

I have been working with the World Health Organisation since 2009 on environmental justice and environmental health inequalities. In that time I have managed international meetings, co-authored World Health Organisation reports and publications and produced peer review papers with their staff. I'll discuss some of this work and hints and tips for impact.

1 b) Speaker 2

Carola Boehm

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‘The creative industries are dead. Long live the creative industries’

A talk about a talk. About how the consumption of culture and arts is affording the creative industries to adapt as users desire personalised, immersive experiences. How to write about and map this shift in how we consume and participate in cultural and creative activities. How I embed my narrative about Culture 3.0 in this city's narrative of becoming ever more creative. How I hope and plan to have impact, and be impacted on by the city's creative momentum.

1 b) Speaker 3

Richard Machin

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‘The Two-Child Limit for Benefits – A move away from a ‘needs based’ system’

In April 2017 the government introduced a ‘2 child limit’ on benefits meaning that benefit are not paid to families who have more than 2 children. This government argue that this is a fair policy and reflects the world of work where wages don't increase with family size. However, many campaigners believe that this policy will inevitably result in increased child poverty.

I analysed and researched the technical detail of this policy and wrote a technical guidance paper that was the first to be published on this policy and was widely read in the social welfare law sector (nearly 900 reads alone on the day that this policy went live). This led to media interest and requests to deliver workshops on this policy. I have subsequently published a paper in an academic journal analysing the professional and ethical dilemmas of the policy and this has been picked up by an online social research publication (Discover Society) and a request to write an article for this organisation.

This presentation will detail how my research is contemporary in nature and how I reach out to an audience of both practitioners and academics.

1 b) Speaker 4

John Cassella

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'Detection and Location of Missing Persons in Clandestine Burials in Ground and in Water Burials'

Over 250,000 missing persons are reported each year; the equivalent of the entire population of Plymouth. Across the country, one person goes missing every two minutes. The majority are swiftly found, or return of their own volition, but many don't. Some of these "statistics2 possibly end up in clandestine burials below ground or in the water.

The Staffordshire University 'Burial Research Team' has been developing methods to assist the Police to find missing persons using the latest chemical research techniques.

Impact from this research is demonstrated by these key points:

- 1. An invitation to sit on the Home Office CAST – Centre for Applied Science and Technology newly created Search Techniques Academic Research Team [START] Team to develop new and collaborative techniques for use in front line searches for missing persons.*
- 2. A Home Office approved research project bringing in a former 'FBI-Department of Justice' canine dog expert as a Staffordshire University Honorary Research Fellow to develop improved canine training methods examining how canine scent detection for victim recovery functions and compares to chemical-analytical techniques.*
- 3. Peer reviewed journal publications and conference presentations with collaborative partners, facilitating Police searches using the latest research and knowledge generated at Staffordshire University.*
- 4. Invited by Police colleagues to assist and advise on real-time missing persons cases.*
- 5. Encouraging undergraduate, postgraduate and European Internship student research aligned with the key questions of the chemistry research for missing persons (clandestine burial) location. One student has entered the research as an UG-intern and has completed a PhD.*

1 c) Speaker 1

Chris Barnes

Visiting Professor
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'The Evolution of Physical and Technical Performance in the English Premier League'

Anecdotal comments both within the sport of professional football, and in the media, refer to a widely held assumption that the sport is evolving both on a physical and a technical level. Although over the past 30 years, a great number of studies using a variety of methods have attempted to quantify the demands of the game in isolation, no attempt to map changes over time had been made.

To explore the evolution of match demands in the English Premier League, data were collected and analysed from 7 consecutive seasons (2006/2007 – 2012/2013, n=22846 observations) using a multiple camera computerized tracking system (Prozone Sports Lts©, Leeds, UK). Original data were resampled using a stratification algorithm to ensure balanced numbers across key factors (playing position, phase of season, match location and final league finishing position) resulting in a working sample of 14700 observations.

Between 2006/2007 and 2012/2013, 'trivial' changes (+2%) in total distance covered during a match were observed. This is in contrast to observed 'moderate' increases (+29%) in high-intensity running distance, and 'large' increases (+50%) in high-intensity running actions, sprinting distance (+35%) and number of sprints (+80%).

From a technical perspective, large/moderate increases in number of passes (+40%) and pass success rate (+12%) were observed over the period of the study.

This study illustrates how the demands of English Premier League match-play have evolved over recent years. The increases in high intensity (HI) demands (HI running and sprinting) coupled with more, and more accurate passing reflect the influence of different coaching and playing philosophies, and have clear implications for conditioning coaches in the preparation of players for the demands of modern game.

1 c) Speaker 2

Hamidreza Gohari Darabkhani

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'Micro Turbine Renewable Energy Combustor (MiTREC) Project: Decentralised, Clean, Affordable and Resilient Energy in Developing Countries'

Small-scale micro turbine biogas power generator system has been identified an ideal technology to provide decentralised clean, affordable, and resilient energy in developing countries. To achieve this goal, the £1.2 m Innovate UK funded project (MiTREC) will design, manufacture and validate a combustion system that can run on renewable gaseous fuels (biogas), based on a 12kWe recuperated micro-turbine architecture. The consortium includes, Bladon Jets (UK) Ltd, Staffordshire University and Cranfield University. The novel work undertaken by the project is development of a biogas-fuelled micro-combustor and Staffordshire University is responsible for the design of this micro-combustor. To date, no such micro-scale system has been demonstrated due to the challenges of micro-scale heat-to-power systems using these fuels. The market is estimated globally at around US\$31 billion with further significant growth expected by the end of the decade. Within this global figure, specific opportunities lie in the backup and prime power requirement for mobile phone towers, a US\$7.3 billion market which constitutes approximately 650,000 generators sets per annum. This presentation will provide the latest progress on this exciting project and the brilliant contribution of Staffordshire University in this project.

1 c) Speaker 3

Mohammad Hasan

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'Effective Task Migration to Reduce Execution Time in Mobile Cloud Computing'

With the advancements in mobile technologies, different compute-intensive tasks are emerging rapidly. However, due to resource constraints, these tasks are facing challenges to execute on mobile devices. As a solution to this problem, cloud migration has been introduced to execute a task on the cloud and then to return the results to the user mobile device. In this paper, a cloud migration decision-making algorithm for compute-intensive tasks has been proposed to determine the feasibility of execution on a cloud server instead of a mobile device. Furthermore, the performances between mobile and cloud executions have been investigated which show that the task completion time can be reduced by a factor of 6 to 8 of mobile service when a cloud server is utilised.

1 c) Speaker 4

Vicky Roberts

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‘Understanding the role of Value Co-creation in Building New Luxury Brands: A Social Network Analysis Approach’

In 2017 Louis Vuitton Moet Hennessey (LVMH), launched LVMH Luxury Ventures, seeking to acquire stakes in new emerging luxury brands to create value in their brand portfolio. This luxury brand incubator approach represents potentially a strategic shift in the industry, and recalibrates the research focus to smaller emerging luxury brands as having the highest potential for growth. With Quach & Thaichon (2017) suggesting luxury brand management needs to be viewed through the process of value co-creation, this paper seeks to explore if a network encourages or inhibits the value co-creation process of small emerging luxury brands and the role of the founder and stakeholders within this process. Using social network analysis on “R” software, results from a pilot study suggest there are typologies of networks within small emerging luxury enterprises. Within these the “artist” has a more fragmented network, whereas larger enterprises have a more dynamic network, with more ties or connections. Network analysis allows the measurement of these ties and underlying structures and suggests that those brands with more dense networks have more potential to create value and therefore grow and develop. The implications for the SME luxury sector, including ceramicists, are that there could be an optimum network structure which facilitates the growth of the brand. Furthermore, different facets of the value co creation process within a network could have a greater impact on brand development.

2 a) Speaker 1

Rachel Bolton-King

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‘Research4Justice – Impact for Student Research’

Our undergraduate (UG) and Masters students produce some excellent research data, recommendations and/or outcomes that may not always be appropriate for journal publication. Often, outputs such as theses, remain inside the HE institution and are never accessed by those external to the supervising team or department. However, the research can be vital for professionals and practitioners frequently do not have access to the multidisciplinary journals in which academics publish.

Research4Justice aims to be the first multidisciplinary, international and open access repository for all UG and Masters outputs containing research relevant to advancing or supporting a justice system. Research4Justice will provide academics, students, industry professionals and the public access to information that will help increase global knowledge and practice in the justice system, creating safer communities for us to live in. Subjects that would populate and use the repository include policing, forensic science and investigation, medicine and nursing, psychology, sociology, criminology and law. This repository is will be officially launched on 11th June and we call for any academic who supervises relevant research to be involved. Research4Justice demonstrates a novel way to internationally showcase our students’ research, enhance the potential for international impact and create further opportunities for networking and collaboration. Ultimately this will produce larger international data-sets for publication and increase public awareness of processes and disciplines underpinning their justice systems.

2 a) Speaker 2

Janice Mooney

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‘The informational needs of patients with ANCA-vasculitis – a multinational study’

Modern therapy with intensive immunosuppression has transformed the ANCA-associated vasculitides (AAV) into chronic diseases needing patient education.

The aim of this study was to compare the informational needs of UK patients with those from North America and Europe.

A vasculitis informational needs questionnaire (VINQ) was developed. Patients were asked to rank the importance of information relating to 5 domains (disease symptoms, investigations, treatment, physical, psychological) on a 5 point Likert scale (1= not important, 5 = extremely important). This was distributed to the registrants of the Vasculitis Clinical Research Consortium (VCRC) and to members of Vasculitis UK (VUK).

There were 273 (184 female; median age 58y; GPA 193, MPA 21, EGPA 59; North America (86%)) respondents from the VCRC and 314 (116 female; median age 63y; GPA 255, MPA 13, EGPA 46) from VUK.

Respondents ranked information on diagnosis, prognosis, test results, treatments and side effects of medication as extremely important. The most needed information was about investigative tests with a mean score of 4.5 (VUK) and 4.5 (VCRC). Leisure activities scored 4.25 (VUK) and 4.33(VCRC). Information on patient support groups and psychosocial care was less important with mean scores of 3.1 (VUK) and 3.0 (VCRC). There was no difference in the needs between VUK and VCRC respondents, gender, age, disease duration or disease subtype.

This study highlights the high informational needs of patients with AAV. Patient education should be targeted to provide reliable information on the diagnosis, clinical treatment and outcomes and provided as quickly as possible.

2 a) Speaker 3

Vish Maheshwari

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‘Investigating residents’ attitudes of 2016 Olympic Games: examining socio-cultural, economic and environmental dimensions’

Olympic Games provide an arguably unparalleled amount of opportunities for the host city and country in relation to economic and socio-cultural growth and development. However, the achievement of such long-term success measures lie with holistic involvement of community groups, residents’ specifically, in the planning of the mega events. The purpose of this paper is to examine the residents’ attitudes of the 2016 Olympic Games and to verify moderating effects of age and place of residence in support of the Games. This study aims to contribute to the developing application of country branding, by examining attitudes of internal stakeholder groups in the form of residents. The data was collected in Brazil in the months leading to the Rio Olympic Games using non-probabilistic convenience sampling. A total of 501 responses were collected prior to the opening ceremony of the event. Both exploratory and confirmatory factor analysis were applied. The socio-cultural and economic dimensions had a positive and significant effect on support for the Olympic Games, however, environmental dimension did not have such strong effect. Furthermore, differences between age, host and non-host city residents were tested positive in support of Olympic Games. This research presents a conceptual model to further establish importance of such attitudes for organisers and government authorities involved with the bidding, planning and management of mega-events from country branding perspective.

2 a) Speaker 4

Sarah Rose

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'The Immediate Impact of Television on Young Children's Creativity'

There is some evidence that watching television, especially fast paced programmes, decreases young children's performance on some cognitive tasks. Although theorists have attempted to explain how television may have a similar impact on creativity there is a dearth of empirical evidence. Fifty six 3-year-old children completed a baseline assessment of creativity. Children were then randomly assigned to watch a fast or slow past television programme or do a jigsaw and listen to a story book for 15 minutes. Directly after this they completed a further measure of creativity. Parents completed a questionnaire about their child's television viewing habits at home.

No immediate impact of watching television on the fluency of divergent thinking was found. Overall, there was also no impact on the novelty of the ideas generated. However, there was some evidence that directly after watching those children who had watched television had fewer novel ideas, but this effect was short lived.

These findings have the potential to influence screen time guidelines and are of great interest to parents and educators of young children. Although only preliminary findings from this study have been released, there has been considerable media interest, and I have been invited to participate in live web chats for a user-led citizen science project.

2 a) Speaker 5

Graham Williams

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'Use of DNA Methylation to differentiate between identical twins – a case for impact'

In forensic casework, the DNA profiling is a powerful tool used for identifying potential suspects. However, the more closely related that two people are, the more similar are their DNA profiles – to the point where identical twins have the same DNA profile, which means that many cases are going unresolved. However, DNA methylation (which is also known as the 'genetic switch') is environmentally influenced and can therefore be used to differentiate between twins and a relatively cheap technique for differentiating between twins using their DNA has been developed.

*The need for this project was identified based upon the researcher's own forensic expertise and understanding of the forensic market – leading to an impactful question being developed. Following publication of the technique in a respectable journal (Analytical Biochemistry), the researcher worked to disseminate these findings through The Conversation. This article was subsequently picked up by the "I F**cking Love Science" Facebook page, and then the New Scientist Magazine and then mainstream media.*

This resulted in requests to present this research at various outreach activities and including to the local scientific support services of the Police. There was also a request to apply this research to a case involving identical twins with mixed success.

Thus, effective dissemination of the research finding once published had social impact as well as impact upon police investigations.

2 b) Speaker 1

Elizabeth Braithwaite

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'Why reproducible science is critical for impact'

Science is facing a 'reproducibility crisis'; more than 70% of researchers have tried and failed to reproduce another scientist's experiment, and 50% have failed to reproduce their own experiments. Concern over the reliability of results published in scientific literature has been growing for some time and is extremely worrying for both scientists and funders, as replication is a hallmark of scientific integrity. Furthermore, a failure to reproduce findings undermines impact because of a lack of confidence in the results of scientific research. In my talk I will address how and why there is a reproducibility crisis which spans all scientific fields, and I will discuss what we, as researchers, can do to address the reproducibility crisis by improving our research methods. I will also outline why reproducible results are essential for impact, and present five key reasons for doing open, robust and reproducible research.

2 b) Speaker 2

Nic Gratton

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'Creating change through inclusive approaches to research'

Despite participation in arts and culture being widely acknowledged as having positive impacts on health and wellbeing (Castora-Binkley et al, 2010; All-Party Parliamentary Group on Arts, Health and Wellbeing, 2017) and social inclusion (Arts Council England, 2004) people with disabilities are underrepresented within the arts and cultural sector workforce and as audience members in mainstream arts events. Taking an inclusive approach to research, this presentation outlines a participatory research project that worked with a team of ten peer researchers with learning disabilities to identify barriers experienced by people with learning disabilities in accessing mainstream arts and cultural venues and events. The findings indicate that that arts and cultural activities are important to participants' wellbeing and definition of culture, however a number of barriers prevent people with learning disabilities accessing cultural activity. External barriers to access included adequate transport and high cost of attending events and additional support. However, respondents to the research also identified personal barriers, such as a lack of confidence, as a barrier to accessing cultural activity. The peer researcher team have identified how and where the findings will be disseminated, including maximising impact on local cultural organisations through shared learning with the Cultural Forum in Stoke-on-Trent. Being an integral part of the research team had a positive impact on the team of peer researchers, not least in building confidence amongst the team to engage with cultural activity. Individual's stories will be shared and the importance of developing inclusive research approaches in demonstrating impact will be discussed.

2 b) Speaker 3

Karan Jutla

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‘Creating and measuring impact: improving dementia care in migrant communities.’

Vascular dementia has been reported as the most common form of dementia in South Asian communities living in the UK due to higher incidences of hypertension and diabetes. Research on dementia care in these communities has highlighted the need for cultural competency training for those working professionally with people with dementia and their families. It has been evidenced that while many health professionals feel that they need more training to both improve their knowledge about dementia and the cultural norms and religious practices of South Asian people with dementia, access to this sort of training is variable. Because of the acute lack of quantitative and qualitative data about the health and social care needs of South Asian communities, and how they are best met, training to improve cultural competency in services is difficult. Research has too reported the lack of awareness and understanding of dementia in such communities and its associated stigma. This paper reports the findings of research with Sikh carers of a family member with vascular dementia living in Wolverhampton in the UK and how this research has been used to create changes both in practice and within the community. It will discuss and demonstrate how knowledge transfer activities such as research-based teaching and the use of social media platforms and channels can create impact and the ways in which such impact can be measured.

2 b) Speaker 4

Fiona McCormack

Centre for Health and Development (CHAD)
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‘CHAD: Reflections on impact from our research experience’

The Centre for Health and Development’s (CHAD) purpose is to contribute to the reduction of health and social inequalities and improve the health and wellbeing of our local population through carrying out high quality translational research.

Where possible, the same ethos and principles underpin all our research – to be translational, assets-based and directly involving communities and wider stakeholders. An assets based approach recognises and values the talents and strengths of our local communities, partners and wider university in carrying out research to reduce health inequalities and puts community at the heart of research planning, delivery and dissemination.

We will discuss ways that we ensure our research has impact, including the importance of our varied relationships, events, how we create recommendations and write up our work. Relationships and empowering individuals, for example, are key parts of our work and that includes community groups, third sector, and local authorities as well as academics. We will discuss the value of these relationships from the inception of projects through to dissemination and beyond. The varied events of the Big Community Conversation, and the research symposium as well as seminars, and presentations to local, regional and national groups are also key.

We will then focus on how we can demonstrate impact, and will draw on findings from the recent CHAD impact survey to discuss the impact CHAD has had both within and outside the University. We will also reflect on the challenges around demonstrating impact and ideas for how to improve in the future.

2 b) Speaker 5

Fiona Graham

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‘Creating international research impact using multiplatform digital film – new multi disciplinary approaches’

This presentation will outline the work we are doing creating visually engaging multi platform international research content. We employ a multi disciplinary approach engaging with colleagues across a range of subject areas to collaborate, create and produce digital film content for maximum international reach.

Developing and creating content with academics here and externally, we raise funding with colleagues to jointly produce international digital outputs in factual subject areas for online platforms, television channels including the BBC and Channel 4, film festivals, and various museums for example in France, Poland and the UK including the Imperial War Museum.

We have developed cross school collaboration in the dissemination of research work in various media forms. To enable a wider audience and to engage wider communities in the discussion it can be useful to present the work in a visual and audio form.

With more than 25 years’ experience in factual production I have translated a range of subjects into accessible documentaries and factual films including engineering, crime, science and history. This work has been broadcast around the world through outlets such as Sky, BBC, ITV and the History Channel. Working with my film camera operator and colleague, Paul Ottey we have combined my production skills with his technical skills to create engaging content and research the various methods of sharing information with a wide audience.

2 c) Speaker 1

Abdel-Hamid Soliman

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‘Wi-Fi Based People Tracking in Challenging Environments’

People tracking is a key building block in many applications such as abnormal activity detection, gesture recognition, and elderly persons monitoring. Video-based systems have many limitations making them ineffective in many situations; for example, they require users to stay within the device’s line-of-sight, they cannot operate in darkness, through smoke or walls, and they violate people’s privacy; furthermore, video-based detection and tracking algorithms suffer from high computational cost and low localisation accuracy. Wi-Fi provides an easily accessible source of opportunity for people tracking, furthermore; it does not have the limitations of video-based systems. Wi-Fi based people tracking systems still need to address some challenges in order to be able to operate in real-world challenging environments, some of these challenges include: the detection of the weak wireless signals, the detection of abrupt people motions, the presence of multipath propagation, and the presence of large number of people. In this talk, some interesting applications of Wi-Fi based people tracking systems will be covered. The techniques used to address existing challenges will be highlighted. Finally, promising future research directions will be discussed.

2 c) Speaker 2

Christopher Gidlow

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'Improving uptake and risk communication in NHS Health Checks'

NHS Health Check is a national CVD risk identification and management programme. We have undertaken research and evaluation around programme uptake and CVD risk communication since its inception (~10 published articles). There have been four main studies since 2014 and the potential for impact has developed as our links with the Public Health England (PHE), the national programme managers, have developed. Briefly:

- *Data from Stoke-on-Trent (n=4855) identified that telephone/verbal invitations were associated with significantly higher uptake than postal. Qualitative data from non-attenders confirmed the ineffectiveness of postal invitations and an opportunity make invitation letters more patient-tailored. Findings were fed back to local commissioners and PHE who then commissioned the HEalth Check TRial (HECTR).*
- *HECTR was a three-arm RCT comparing uptake when using generic invitation letters (control), letters personally tailored to patient's CVD risk, or telephone invitations (total n=4614). Telephone invitations were most effective and cost-effective, with the CVD risk-tailored letters offering only modest improvements (vs. generic letters). Potential impact: roundtable discussion at the PHE annual conference dedicated to findings; invited presentation to the programme Expert Scientific Advisory Panel (ESCAP); use of findings in national guidance to be tracked and PHE asked for evidence.*
- *Training in CVD risk communication for Health Check practitioners has been developed, piloted and evaluated (following extensive qualitative work with patients and practitioners). Potential impact: Discussions with several local authorities regarding purchase/use of training are ongoing; those using training will be asked to gather evidence of changes in practitioner confidence and understanding.*
- *Risk COmmunication in NHS Health Check (RICO) is an ongoing NIHR-funded HTA study comparing CVD risk communication in Health Checks when using different CVD risk calculators. Potential impact: Findings will inform national guidance on risk communication practices and integration of new risk calculators into general practice software systems.*

2 c) Speaker 3

Michael Branthwaite

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'The messenger is the message'

Ziva Amishai-Maisels highlighted that because art strives for beauty and personal expression it might be incompatible with any form of communication relating to the Holocaust. However, following a forensic archaeological examination of Treblinka (as part of 'Finding Treblinka' conducted by Staffordshire University's Centre of Archaeology) new opportunities to use art and archaeology to aid understanding of the Holocaust were explored. Whilst the archaeological work offered the opportunity to re-evaluate the layout of the camps, art provided the opportunity for new discourses, both within historical and scientific narratives and the socio-political discussions and positioning of Treblinka. New knowledge and understanding generated by both disciplines offered the opportunity to reconsider the ways in which we process these historical events in relation to contemporary issues. The paper will focus on the 'Finding Treblinka' exhibition at the Wiener Library as a model for enriching the experience of gaining new knowledge by the integration of art works into a combined exhibition before introducing the iC-ACCESS project currently underway that focuses on the development of artworks that will be used to generate debate within the on-line platform being produced by the project to introduce and impact upon attitudes to history, specifically conflicted history and awareness of the concept of multiple truths in contemporary society. It will briefly outline how the art works were chosen, in what way they became agents in the pursuit of materializing artistic responses to scientific data and how they became a conduit to greater historical knowledge- as implied in the title the art works not only translate the data and findings but create impact by developing innovative ways to create new thinking in society about the challenges to established historical fact. Crucially, this paper will demonstrate how interdisciplinary work can multiply the impact factors by using art as a conduit to not only introduce complicated and hard to understand scientific data but also to address the social implications that data may have on society and the collective understanding of historical events from multiple perspectives.

2 c) Speaker 4

Tom Shannon

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'Review of Several Recent Staffordshire University Clinical and Computer Vision Research Projects'

The Radiological and Clinical Assessment of a Cohort of AIS Patients in Serbia and Bulgaria. Cosmetic concerns, quality of life and the psychosocial impacts of adolescent idiopathic scoliosis remain important factors in any clinical decision-making process. In conjunction with conventional radiological and physical palpated measures, the addition of metrics using emerging depth cameras and computer vision algorithms could be included when designing treatment plans and assessing outcomes. The research has demonstrated potential added value in the assessment of the efficacy of differing clinical interventions.

Non-Contact Wound Measurement Using Commercial Structured Light Depth Cameras and Computer Vision Algorithms

Chronic wounds including pressure, stasis and diabetic ulcers continue to affect significant numbers of the population through limiting the quality of life and autonomy of those including the elderly; patients with spinal cord injuries, peripheral vascular diseases, diabetes and persons with birth defects such as cerebral palsy, muscular dystrophy or spina bifida. The ready availability of new objective methods may lead to more effective wound management by providing quantitative metrics to provide clinicians with the tools to better assess whether a wound is healing, worsening or remaining constant. Bespoke computer vision based software has been written to extract the contour of the wound to provide an estimate of area and wound depth emerging depth camera technologies. The technique sensitivity and specificity was determined by measuring wounds of known dimensions introduced into porcine cadaver flesh with encouraging results

2 c) Speaker 5

Jim Radcliffe

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'Life in the Fast Lane: researching the ambulance service'

Since retiring from my post as Principal Lecturer in the School and being appointed as a Fellow of the University I have continued to write and publish, primarily on research conducted into the Ambulance service. Along with colleagues Geoff Heath from Keele and Prof Paresh Wankhade from Edge Hill University this work has centred on the role of performance indicators in the service, the changing role of paramedics and the problem of changing organisational culture.

The work on performance indicators resulted in some early publications that, we believe, added to the debates over their need to be expanded to reflect the changing role and increased skill set of paramedics. We found that the existing indicators concentrated on response times and therefore neglected the important work performed by ambulance crews and paramedics at the scene of an incident. In recent years the range of indicators have been increased and better represent these roles.

We have also contributed to the discussions around a Government document on the increased coordination of all three emergency services, including the expansion of the role of the Police and Crime Commissioner.

This work has been presented before student paramedics on a number of modules in the last few years, as well as a module on leadership in the School. Our joint work has also been disseminated to the wider academic community through conference papers and publications. I have also been accepted as an Honorary Associate at the Centre for Health and Development (CHAD) to support new researchers.

3 a) Speaker

Jackie Reynolds

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'Making a Difference? Planning for Research Impact'

As a researcher, do you want to make a difference beyond academia? What exactly do you hope to achieve and how will this happen?

Is your research already having an impact but you're a bit unsure about how to evidence this?

This interactive workshop will consider some possible pathways to achieving various types of impact through research activities and dissemination. We'll discuss practical ways that you can increase your impact, and what types of evidence you could collect to demonstrate this.

We will also focus on the role of impact in REF 2021, and discuss what makes a good REF impact case study.

You'll be asked to reflect on the difference that you want your research to make and to develop an action plan for how to achieve this.

3 b) Speaker

Martin Jones

Executive
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'Producing 4* research outputs'

In this training session Professor Martin Jones will discuss maximising the quality of your research outputs and address what 4 and 3* research looks like. Advice will be given on turning 2* outputs into 3* outputs, and 3* into 4*. While the session will draw on Professor Jones' work in the social sciences, academics from all subject disciplines will find this workshop useful, and it will prove a valuable opportunity to gain insights on improving the strength of your research outputs and potential contribution towards the next REF.*

3 c) Speaker

Cathal Rogers

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‘What is this thing called REF and why does everyone talk about it’

The Research Excellence Framework (REF) is used to allocated more than £1billion of funding to UK universities. But what is the REF, how does it work, and why does everyone seem to talk about it? In this session Cathal Rogers (Research Policy & Governance Manager) explains what the REF is, how Research is assessed and why it is important to all of us.

Experienced researchers, as well as those who are starting or returning to their research careers, may find the session useful for their future research plans and understanding the importance of the REF.

3 d) Speaker

Vicki McGarvey

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‘Improving impact from bibliometrics to social media’

As a research active academic demonstrating impact is both a necessity and a challenge. This session will give an overview of different approaches to improving impact, from traditional bibliometric methods, to new alternative metrics methods, generated via social interactions, using social media, and academic networks. This will integrate illustrations of researcher activity in these areas. The session will give you an opportunity to share your understanding of metrics, with respect to impact, your existing practice and to consider ways to enhance and develop this.

4 a) Speaker 1

Neil Brownsword

*Art, Design and Performance, Bucks New University
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‘Re-activating Britain’s tangible and intangible ceramic manufacturing heritage’

Since 1999, Professor Brownsword’s artistic research has mediated the legacy of deindustrialisation in North Staffordshire’s ceramic manufacturing sector. His reactivation and curation of its associated post-industrial spaces and endangered industrial crafts, has achieved impact internationally via cross-cultural exchange between the UK and Asia, and through curating large-scale trans-disciplinary projects in collaboration with H.E.I’s in the UK and Europe. The impact of this research has been realised through its endorsement by external funding bodies, and world-renowned cultural institutions who have widened public understanding of its value. It has influenced his co-collaborators work and led to new insights into how ceramic and clay can be understood as both material and subject in contemporary art practice. In this presentation Brownsword will explore examples of underpinning research that demonstrate impact which include:

His co-curation of the international artistic research project Topographies of the Obsolete (2012-2017), in collaboration with the British Ceramics Biennial, Bergen Academy of Art and Design, (KHiB) and over 50 artists and cultural commentators.

National Treasure which represented endangered intangible heritage associated with marginalized industrial craft practices in North Staffordshire, which was awarded the Grand Prize at the prestigious Gyeonggi International Ceramic Biennale, South Korea (2015).

Re-Apprenticed (2015) - Brownsword’s archiving and reimagining of endangered industrial artisanal skill through its illumination of both haptic and material knowledge performed at the V&A’s Raphael Galleries and the Ashmolean Museum Oxford (2015/16).

Brownsword’s performative installation Factory endorsed by the UK/Korea season (British Council) to promote cultural exchange and ‘showcase the UK’s innovation and excellence in the arts and creative industries’.

4 a) Speaker 2

Martin Grime

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'The Inclusion of Canines Within Forensic Research'

The routine involvement of canines within research will encourage a broader spectrum of students to become involved in the natural sciences whilst facilitating the formation of collaborative partnerships with practitioners so as to capture and cascade their extensive experiential knowledge to a wider audience.

Detection canines deployed in support of Forensic Evidence search strategy are trained to detect live human scent, human blood and human decomposition odour to micro proportions. They are a valuable resource to investigators in that; they provide olfactory intelligence as to the possible location of evidence that may not potentially be recovered due to size or placement using traditional visual means.

Credibility is the primary criterion within canine olfactory related research. It is required to establish trustworthiness and confidence in canine resources deployed within strategic missions to recover missing persons and locate evidence for the subsequent prosecution of offenders.

In recent history these resources have undergone considerable development based primarily upon practitioner skills and experience supported by 'proof of concept' scientific research. Research should now be extended to examine environmental, climatic, contextual, and geological influencers upon the migration and transference of scent and odour. This will facilitate a better understanding of the behaviour of odour, and potentially improve our interpretation of canine responses and to more accurately predict the location of deposited human remains and DNA evidence. It will also reinforce scientific research through the provision of a qualitative capability of practical application testing.

4 a) Speaker 3

Gavin McStay

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'The powerhouse of the cell: how it makes us and breaks us'

Mitochondria are more commonly known as the powerhouse of the cell. This is because of their energy generating capacity that is fundamental to complex life. Mitochondria are a dynamic cellular compartment that respond to cellular and environmental cues. If these processes are interfered with energy production is prevented and cells inevitably die. This is due to a molecular pathway that also engages mitochondria, called apoptosis. We are interested in the molecular pathways required for mitochondrial formation and mitochondria-dependent cell death as these pathways place them at an important point in pathophysiological processes. By exploring the molecular pathways that impinge on mitochondria we hope to identify novel drug targets and biomarkers. Mitochondria are found in all eukaryotic life and are remarkably similar between single celled yeast and humans. Human disease is often due to mutations in specific genes and this is very true for genes involved in mitochondrial formation and cell death pathways. We aim to investigate the impact of mutations on these processes using a variety of model systems, such as yeast, cell culture and in vitro experiments that could have some impact on the treatment or diagnosis of diseases, including cancer and neurodegeneration, which are caused by multiple genetic factors and are relatively difficult to treat. Our research aims to have an academic impact to increase knowledge of this specific research area, an educational aspect to inform the public of basic research and applications, and to influence how disease and treatments can be diagnosed and treated.

4 a) Speaker 4

Edward Tolhurst

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'Qualitative research: seeking meaningful impact'

Positioned between the natural sciences and the humanities, qualitative social science has immense potential to illuminate the human world. Drawing upon recent research and its related outputs, this presentation shows how impact can be readily achieved under the current model of qualitative research.

Crucially, however, it also addresses how a redefinition of impact is required: a new approach to qualitative research can ensure that empirical endeavours are focused on enhancing the social world, rather than merely satisfying professionally-defined metrics. It is argued that the potential of qualitative approaches is hindered by the misapplication of quantitative standards of rigour, such as precision and objectivity, to all aspects of social science. Qualitative research thus requires reorientation to convey its subject matter more directly and faithfully. Analytical processes also tend to generate multiple intermediary stages (such as transcription and coding) that generate 'distance' between the empirical domain and academic outputs. The neat packaging of themes for publication also risks misrepresenting the complexity of the social world. A substantial rethink of how findings can be developed and conveyed, eschewing industrial norms and embracing non-traditional formats of delivery, will offer deeper insights into lived experience and can accordingly inform policy and practice in a more meaningful fashion.

4 a) Speaker 5

Konstantinos Spyropoulos

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'Examining the association between Multiple Health Risk/Enhancing Behaviours and Associative Multimorbidity risk'

Epidemiological evidence suggests many people experience multiple, rather than single health conditions and that multi-morbidities (MM) and multiple behaviours (MB) are predominant among those health issues. This creates unique challenges to an over-burdened, single condition focused health care system such as multiple healthcare burden and augmented risk of delivering less than the best based care, as well as excessive health care usage and health care costs. However, evidence on MB – MM association are scarce.

The present study aims to fill this gap examining the combined effect of MB on associative MM risk. A cross-sectional multi-centre study is implemented focusing on anonymized data of patients' Electronic Health Records (EHR) of five GP practices from Stoke on Trent. Data extraction is based on a list of 40 morbidities alongside any available lifestyle behavioural factors records and socio-demographic data. Cluster analysis will examine which health risk behaviours of people with MM link each other statistically higher than simply by chance while factorial analysis will reveal scientifically and clinically usable patterns of MM. Finally, logistic regression will provide the odd ratio of someone engaging with MB on developing a specific pattern of MM alongside its social patterning cues.

The findings of the study will contribute to the development of a common MM-MB framework where both treatment and preventive medicine will be treated as equally important parts of people with MM screening process as well as their curative action plans.

4 b) Speaker 1

Marc Estibeiro

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'Extending Traditional Instruments: Controlling Bespoke Software Performance Environments in Compositions for Acoustic Instruments and Electronics.'

This presentation describes the use of bespoke software performance environments in mixed compositions for acoustic instruments and electronics. Different models of control are outlined and a model where the control of the software is integrated with the instrument and embedded into the score is described in detail. A case study is presented of a composition for bass clarinet and electronics which was performed at the Zurich University of the Arts in June 2017. The piece was composed specifically for a sensor-enhanced bass clarinet system as part of a project jointly organised by the Zurich University of the Arts and a private company created specifically to develop and market the system. The bass clarinet was fitted with an accelerometer, a breath control sensor, and individual switches embedded into the standard bass clarinet keys. The composition maps performance data from the bass clarinet into the software environment in such a way that the performer has control of all the available parameters in the system. The parameters, and their corresponding audible effects, are written into the score and form an integral part of the composition. The impact of the project is seen through a public performance in an international setting at a leading European university. A film of the event is also being produced and will constitute a further output. Opportunities for further research papers, conference papers, concerts, collaborations and recordings have arisen from this project and will also serve to broaden its impact.

4 b) Speaker 2

Peter Kevern

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'Dementia meets religion, and vice versa. On interdisciplinarity and impact'

This presentation will examine how impact 'on the ground' is built by successive collaborations, and some of the potential pitfalls.

Over 10 years of research at the interface between religion and dementia, my research has strayed across the fields of philosophical theology, psychiatry, social studies and healthcare delivery. Similarly, outputs have ranged from newspaper articles and practitioner workshops to keynote addresses and peer-reviewed papers. Finally, an ongoing collaboration with a large religious body is expected to produce both high-quality research and evidence of impact 'on the ground' over the next two years.

However, this sort of sprawling interdisciplinarity raises some problems in the context of the REF. Although REF2021 is expected to be hospitable to interdisciplinary research, the primary vehicle will be the subject-orientated Unit of Assessment (UoA). Since these have different criteria for measuring research quality, interdisciplinary research is difficult to grade. For this and other reasons, interdisciplinary research may be hampered by perverse incentives.

4 b) Speaker 3

Sandra Murray

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‘Ocularcentrism in teacher video evaluation - From short sighted to 20:20 vision’

A substantial body of knowledge exists in relation to the use of synchronous and asynchronous video in supporting teacher development. However, recognition and exploration of the limitations of viewing reality through this media is underdeveloped. In particular, no recognition is made of the ways in which an ocularcentric lens influences the content of teachers’ evaluations. This research makes a novel contribution to this area through the application of an evidence-based framework of teacher effectiveness and comprise a cross sectional mixed methods case study in a Further Education college in the industrial North Midlands.

Through analysis of teacher reflective accounts, questionnaires and focus groups with teachers and teaching and learning coaches, the project will explore ocularcentric elements of teaching practice in relation to asynchronous video evaluations. Recommendations will be made for the use of an asynchronous video tracking and recording tool for teacher reflection and teacher development via the construction of a novel reflective framework that draws on evidence-based approaches to teacher effectiveness that recognises both visible and non-visible aspects of teaching.

4 b) Speaker 4

Matthew Slater

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‘Developing and Evaluating the Impact of a Social Identity Leadership Programme’

The social identity approach to leadership is a theoretical framework rooted that contends leaders and group members are connected through feeling a sense of psychological belonging and emotional attachment to their group (e.g., “we” are part of Staffordshire University). The aim of this presentation is to provide an overview of recent research developments that have designed and tested an evidence-based programme (The 3R’s: Reflect, Represent, Realise) to develop leadership, and to discuss the future impact opportunities of the programme. First, the presentation will outline the development of the 3R leadership programme, before discussing recent data on implementing and evaluating the programme in sport (e.g., elite disability sport) and exercise settings (e.g., with instructors of exercise classes). Finally, opportunities for future impact with additional external partners (e.g., in business, health) will be discussed.