Institution: University of Sheffield
Unit of Assessment: D-34 Communication, Cultural and Media Studies, Library and Information Management
1. Unit context and structure, research and impact strategy

1.1 Overview

The Unit consists of the Information School and the Department of Journalism Studies (hereafter the iSchool and Journalism), both members of the Faculty of Social Sciences in the University of Sheffield. They share a focus on the production, processing, consumption and exploitation of content, broadly defined, and host three dedicated research centres: the Centre for Freedom of the Media, the Centre for the Study of Journalism and History, and the Centre for Information Literacy Research (hereafter CFOM, CSJH and CILR).

Both departments have strong academic reputations. The University was graded first in the UK for journalism and media in the Complete University Guide 2020; the Guardian university league tables for 2019 and 2018; and the Times/Sunday Times Good University Guide in 2018. The iSchool was ranked first in the world for Library and Information Management in the QS World University Rankings in 2021 and 2019 (and second in 2020), and is represented on the Board of Directors of the international iSchools organisation, which comprises 112 of the world's top information departments. The departments have grown substantially over the assessment period, resulting in plans for both Journalism and the iSchool to move to new, purpose-built accommodation in 2023 as part of a strategic plan to enhance collaboration by co-locating Faculty departments.

Both departments are dedicated to understanding the roles of information and communication - both current and past - as critical elements in the development of societies, but also maintain their own intellectual agendas. The iSchool's research investigates the interactions between information, people and technology and how these shape an increasingly dynamic and complex world. There are three broadly defined areas: data science, how information is used in diverse organisations, and how information literacies, practices and policies benefit individuals and societies. The research includes both computational and non-computational activities, which encompass a wide range of theoretical and methodological approaches, with current themes including: librarianship; data science; chemical and health informatics; information retrieval; information systems; knowledge management; and social media and the digital society more generally.

Journalism is committed to promoting the fundamental importance of journalism and its value as a contributor to the communicative nature of societies and is dedicated to understanding, sustaining and improving their communicative base. Accordingly, Journalism's research focuses on communication, media and journalism, with current research themes including: conflict and crisis communication; media freedom and journalism safety; European and comparative media and information law; journalism and communication history; journalism, communication, civil society and democracy; language, communication and journalism; and the digital media and communication environment. Department research interests coalesce in the Unit around the growing problems of the publication on and offline of misinformation, disinformation and hate

speech, which affect the quality and sustainability of trustworthy information and communication and highlight the complexity of relationships between technology, producers and users/consumers.

1.2 Research strategy and objectives

Review of REF2014 plans

The Unit has undergone substantial changes in staffing since 2014, allowing it to grow whilst achieving the five strategic objectives detailed in its REF2014 submission and maintaining its world-class reputation in areas such as information retrieval, media freedom, journalism history and librarianship. These objectives were:

- *To increase collaborative research, and involvement with other iSchools.* Extensive links developed within Sheffield with collaborations involving 17 departments across all five faculties. New collaborations with 11 other members of the iSchools organisation in Australia, North America, Europe and China. Supported in 2018 by the iSchool becoming only the second European member to host the iSchools annual conference; **Bath** is chair of the European iSchools committee.

- *To exploit the iLab.* An iSchool facility, recently upgraded with state-of-the-art eye tracking equipment, to support behavioural research, and to enable digital focus-group data collection. It now forms a key component of several iSchool research strands, e.g., work by **Rutter** on emotional reactions to health-related images, and task-based evaluations of the Worldcat.org and Europeana databases (Clough17, Goodale14). It is now being used widely outside the Unit, including by other disciplines (e.g., Education and Sociological Studies), and by major non-academic users such as the development of an app by FirstBus.

- *To develop research on the protection of journalists and of media freedom.* The Unit has led the development of CFOM to become an officially recognised partner research centre of UNESCO on its Journalism Safety agenda. In 2016, the Unit founded the Journalism Safety Research Network (JRSN), an international network of ca. 200 academics with global recognition for contributions to research and advocacy in media freedom, journalism safety and the issue of impunity (Harrison18).

- *To internationalise the research and teaching agenda in journalism.* Exemplified by: an AHRC project on press ethics and regulation in 13 European countries; an ESRC project on radio and women's empowerment in the Sahel; contributing to the annual UNESCO International Day to End Impunity (IDEI) by hosting an associated event in Sheffield; contributing to and participating in UNESCO's annual World Press Freedom Day; and the internationalisation of the curriculum through the creation of new research-informed MAs in 'Global Journalism' and 'International Public and Political Communication' (with ca 270 students in the current cohorts).

- *To develop research in social media and in research data management (RDM).* Three new staff appointments in the iSchool (**Dasuke**, **Reilly** and **Zhang**) and one in Journalism (**Tong**) with interests in social media, and social media regulation (**Katsirea**) who have already contributed significantly to this important and growing area of research (e.g. Dasuke18, Zhang19). **Cox** and **Pinfield** have, inter alia, conducted two major international surveys of academic libraries' support for RDM (e.g., Cox17), forming part of an extensive programme of research into digital scholarship and open access (OA) more generally (e.g., Pinfield17, Sbaffi17, Willett20).

In addition to these objectives, the Unit's REF2014 submission also detailed a number of specific planned activities, whose successful outcomes are evidenced in the iSchool by:

- Research on drug discovery with a range of pharmaceutical companies (Gillet14, Gillet19) and a translational EU-FP7 project to develop new diagnostics and therapeutics for Alzheimer's Disease (de la Vega de Leon18)

- Moving beyond conventional information retrieval with, e.g., **Checco** directing a Horizon2020 project that uses machine learning techniques to strengthen the European fashion industry and **Bates**, **Clough** and **Hopfgartner** co-investigators in a Horizon2020 project on algorithmic bias and transparency in social settings

- Studies of health information in the Global South, e.g., collaborative research with colleagues in Malawi, Nigeria and Uganda (Dasuki18)

- Extensive studies of scholarly communication, with a particular focus on the emergence and role of open access (OA) mega journals (Pinfield19, Willett20) and the relationship between theory and practice in OA.

- Webinars organised on information literacy for the UNESCO-sponsored annual Global Media and Information Literacy week, and for the International Federation of Library Associations and Institutions and the American Library Association.

and in Journalism by:

- Extensive research on ethics and regulation, and media law to expand an understanding of the wide range of contemporary challenges to media practice (Steel, Katsirea19. Harcup).

- Extensive publication programme on journalism and history (e.g., *The Routledge Companion to British Media History*; *Tabloid Century*: *The Popular Press in Britain, 1896 to the present; Letters to the Editor: Comparative and Historical Perspectives; Redefining Journalism in the era of the Mass Press: 1880-1920*), and an AHRC/NWO funded project with the University of Groningen on changing perceptions of the role of journalism at the end of the 20th century

- The establishment by UNESCO of a UNESCO Chair on Media Freedom, Journalism Safety and the Issue of Impunity at the University of Sheffield in recognition of Harrison's expertise and the impact of **Harrison's** research and input into non-academic agendas (one of only 13 UNESCO chairs in the UK and the first focussing on these three themes)

Objectives for the coming 5-year period

Building on its current expertise, the Unit will analyse and respond to dramatic societal changes taking place because of technological developments, such as social media and artificial intelligence (AI), and global challenges, such as sustainability, peacebuilding and social justice, and the accelerating shift towards the digital due to COVID-19, among other catalysts. To achieve this vision, we will:

- Further enhance our vibrant research culture which produces world-leading interdisciplinary research in

  - Information science, including: applications of data science to solve problems in areas such as chemoinformatics, health informatics and social media analysis; understanding the role in organisations of data, information and knowledge, and

information systems and services, including governance, innovation, openness and sustainability; and understanding of how literacies, practices and policies in data, information and knowledge, used ethically, benefit individuals and societies.

- o Journalism, media freedom and communication including: understanding the societal impact of journalism on the communicative base of societies; development of research capacity to strengthen the protections for free, independent and diverse media in law and practice, with particular emphasis on the wide range of challenges to media in a digital age; development of digital monitoring methodologies to address the lack of systematisation and harmonisation of data collected by monitoring organisations worldwide on attacks against journalists; expand research capacity on the role of media and communication in conflict and post-conflict situations and in peacebuilding.

- Lead both our own University and our disciplines in further understanding how to exploit the new research opportunities created by big data, AI and innovative digital methodologies.

- Strengthen the reach and depth of our collaborations with external partners in all sectors (private, public and the third sector), evidenced by growing numbers of joint funded projects and co-authored and co-created outputs, specifically further deepening our partnerships in Europe, East Asia, and the Global South.

- Embed the Knowledge Exchange (KE) Concordat and further invest in our strategy for KE to maximise the impact of our research. Foster our long-term relationships with external partners in industry and in wider communities, forging in-depth collaborations with the purpose of understanding and addressing real-world problems, for measurable social benefit.

- Draw on the opportunities offered by a wide range of funders to establish new interdisciplinary studentships, supervised by teams across and beyond our Unit, forging collaborations within other disciplines and with non-academic users in order to develop the next generation of researchers, equipped with the cutting edge conceptual and methodological skills needed to address complex global challenges within and beyond academic career contexts.

- Continue to build strong groups of early career researchers (ECRs) equipping them to engage in multidisciplinary collaborations all around the world, and with the diverse communities of users of their research; and to provide them with the skills and aptitudes to be leaders of the ambitious and responsive research programmes required to address the complex challenges facing society.

- Embed a strong culture of equality, diversity, and inclusion (EDI) in all our structures and practices: as evidenced through the recruitment and career progression of our staff and postgraduate research students (PGRs); the foregrounding of EDI in research design; and further diversification of the partners in, and beneficiaries of, our research.

- Lead responses to societal challenges using our expertise in data, information and knowledge, including those posed by COVID-19. Using our interdisciplinary expertise and collaborations we will generate knowledge to inform the response of organisations and communities, and by leading the development of innovative methods, concepts and ethical frameworks we will sustain world-leading research in the context of future global crises.

- Build on our long-standing commitment to, and strong track record in, open research and the knowledge of our world-leading experts on OA to position the Unit at the forefront of embedding FAIR (findable, accessible, interoperable, reusable), open, ethical, and replicable research.

1.3 Supporting interdisciplinary research

The Unit is inherently interdisciplinary and encourages this diversity through interdisciplinary recruitment, by promoting collaboration with colleagues in other University departments and other institutions, and by providing seed funding for interdisciplinary work.

Staff backgrounds cover many varied disciplines, with some staff having moved to the Unit from within Sheffield (e.g., **Cameron** from Psychology, **Jimenez** from Geography) and **Bath** recently moving to a joint appointment with the School of Health and Related Research (ScHARR). The Unit can draw on expertise in both quantitative and qualitative research methods as diverse as clinical pathway analysis (Bath15), content analysis (Harcup16, Harrison15, Ogbebor20), data journeys (Bates19), focus groups (Tomlinson20), interviews and surveys (Heywood18), discourse analysis (Ahmad18), crowdsourcing (Demartini15), Foucauldian analysis (Surowiec16), grounded theory (Martins16), machine learning (de Leon15), natural language processing (Zhang18), comparative legal research (Katsirea19), legal analysis (Parmar18), log analysis (Harvey19), scientometrics (Lin18), and user modelling (Foster18).

This wide range of expertise facilitates inter-disciplinary collaborations with departments across Sheffield, e.g. Chemistry (Gillet19), Computer Science (Clough14), ScHARR (Webber18) and Sociology (Bath17) and in many of the (inter)national collaborations described in *Section 4*. The inter-University collaborations often contribute to broad interdisciplinary research groups within Sheffield, e.g., the Digital Society Network (where **Bates** and **Chernobrov** are joint leaders of two principal research themes, and where **Clough** was Deputy Director), iHuman (which supported **de la Vega** and **Cameron** for work on trust factors in healthcare AI systems and on human-robot interactions), the Sheffield Institute for International Development (SIID, where **Abbott**, **Chernobrov**, **Harrison**, **Mazumdar**, **Pukallus** and **Zamani** are fellows, and where **Jimenez** is joint leader of the Development Alternatives strand), Sheffield Political Economy Research Institute, where **Katsirea** is an Associate Fellow.

The Research Hub (see *Section 3*) provides a central mechanism for identifying and promoting interdisciplinary research within the Faculty, which has provided funding for networking events and contributed to the establishment of the UNESCO Chair in Journalism.

1.4 Sharing and open access

The Unit has a long-standing commitment to openness. To ensure maximum discoverability of our research, we aim to put all outputs in White Rose Research Online, our shared repository with Leeds and York (green route). The 876 outputs deposited over this assessment period were downloaded over 219,000 times. This is our preferred route, ensuring equity in publishing opportunities regardless of available funding; we also publish outputs in fully OA journals, and are supported by a faculty fund to do so, or hybrid where required for funder compliance. Data is contributed to the institution's Online Research Data repository, e.g., data from a large-scale international survey of research data management in libraries, and from a study on use of commenting in OA mega journals (Willett20).

The Unit includes world-leading experts on OA-related issues and open scholarship more generally (e.g., Cox17, Pinfield17, Sbaffi17), who have helped drive institutional open research approaches.

They have also provided national and international advocacy and leadership in this area over many years, with **Pinfield** an external advisor to UUK, Jisc and the various SHERPA facilities for OA, and **Wilsdon** chairing the group that produced The Metric Tide report (Wilsdon15) and leading national debate in this area.

Some Unit research has made significant contributions to data and code sharing. Chemoinformatics research code and data (e.g. de Leon18, Gillet19) are distributed via the GitHub repository, and information retrieval data are distributed through fora such as the NTCIR, MediaEval and CLEF conference series (Hopfgartner18), which provide benchmarking facilities ensuring the effectiveness and the reproducibility of information access algorithms.

Sheffield is a signatory of the San Francisco Declaration on Research Assessment, and supports the principles of open research as set out in the *Concordat on Open Research Data* and the *FAIR principles*. The Unit is committed to open research wherever possible, following best practices in managing research data securely, and in considering issues of data sharing from the beginning of all research projects. All iSchool PGR students receive training on open scholarship and RDM as part of their research training; and the School's RDM expertise (Cox19) enables it to work closely with the University Library RDM service to explore good practice in open scholarship.

1.5 Supporting and sustaining impact

The Unit is well-placed to plan for and to facilitate the impact of its research and achieves this by encouraging transformative research, much of which is based in practice. Staff have always had strong relationships with associated professions through:

- Membership of appropriate professional bodies (e.g., Association of Information Systems, British Computer Society (BCS), Chartered Institute of Librarianship and Information Professionals, (CILIP), Society of College, National and University Libraries (SCONUL), Association of Journalism Educators, Broadcast Journalism Training Council, the Professional Publishers Association and the National Council for the Training of Journalists), with **Birdi**, **Hopfgartner**, **Pinfield** and **Webber** members of BCS, CILIP and SCONUL committees, **Katsirea** a member of the Athens Bar and **Harrison** a Fellow of the Academy of Social Sciences.

- Recruitment of research-active staff who have had successful careers as practitioners (e.g., **Harcup, Pinfield, Ogbebor, Tong, Webber**).

- Organisation of meetings on behalf of professional bodies aimed at practitioners, e.g., the triennial international chemoinformatics conference (most recently the eighth in 2019 chaired by **Gillet**) on behalf of two drug discovery societies.

- Teaching programmes with strong professional links through visiting speakers, masterclasses and collaborative student projects.

- Publication of outputs for both academic and professional audiences.

- Both departments having practitioner-based advisory panels to provide current insights into the ever-changing worlds of information and journalism.

These characteristics mean that the Unit has developed long-term interactions with many different national and international organisations that are current and future users of our research (e.g., African Media Initiative, Article19, AstraZeneca, Breast Cancer Now, European Commission, Fondation Hirondelle, Free Press International, GlaxoSmithKline, Independent Monitor for the

Press, Independent Press Standards Organisation, *Index* on Censorship, Motor Neuron Disease Association, UNESCO, Zalando). These interactions achieve impact by informing practice and policy and by collaborative research with user beneficiaries.

Three of our submitted impact case studies exemplify the diversity of research methods employed within the Unit and our ability to inform practice and policy. They demonstrate the Unit's strengths in internationally relevant research that has clear impacts for a diverse set of beneficiaries.

- The media freedom case study exemplifies high-quality research by **Harrison**. This research (part of it funded by Free Press Unlimited, a Netherlands media freedom civil society organisation) has contributed to improving the alignment of the data collected by monitoring organisations on attacks against journalists to the requirements of the SDG16.10 indicator, benefiting local civil society organisations and international journalism safety agencies. The research has also formed the basis for evidence to the UK's Foreign Affairs Select Committee hearing on Media Freedom and a UNESCO Chair has been established at the University of Sheffield for **Harrison** in recognition of the international impact of her research input into the implementation of the UN's 2012 global multi-stakeholder *Action Plan on Safety of Journalists and the Issue of Impunity.*

- The OA case study exemplifies high-quality funded research (Universities UK and the European Commision FP7) and is based on **Pinfield**'s research on (inter)national policies and practices for OA, which has formed the basis for evidence to EC, JISC, RCUK, Universities UK and the UK government. He has also engaged with potential beneficiaries through consultancy work for the Swedish National Library.

- The womens' rights case study is based on high quality research by **Heywood**, funded by the British Academy. This research has resulted in Fondation Hirondelle, a Swiss media development NGO, and the Swedish International Development Cooperation Agency developing policies for the use of radio to support female empowerment in developing countries where there is likely to be a high degree of illiteracy.

- Our use of collaborative research as an impact mechanism is exemplified by the chemoinformatics case study, which involves co-production with intended end-users. The European Medicines Agency supported research by **Willett** into orphan-drugs that now forms part of their regulatory procedures, part of which is also used by pharmaceutical companies applying to the Agency; and **Gillet**'s work on reduced graphs arose from funded collaborations with GlaxoWellcome (now GlaxoSmithKline) and Sanofi, two of the world's largest pharmaceutical companies.

2. People

2.1 Staff development

The principal aim of the Unit's staff development strategy is to provide a research culture that enables staff to fully realise their academic potential as their careers progress and produce internationally excellent, impactful research. Following induction by both Sheffield and the Unit, new academic staff are assigned a probation advisor to provide detailed advice and support during the probation period. During this time - typically 3 years - the probationer is given a reduction of 425 hours (~28% decrease) in their teaching and administrative loads to enable them to undertake Sheffield's Postgraduate Certificate in Teaching for Learning in Higher Education. Upon successful completion, staff are recognised as Fellows of the HEA.

After probation, staff move to the institutional appraisal system, the Staff Review and Development Scheme (SRDS). This involves an annual discussion with a senior member of staff (normally the Head of Department) to review the previous year's activities, including the extent to which agreed SMART objectives had been achieved, to set objectives for the coming year that will support career progression as detailed in the Academic Career Pathway (ACP; vide infra), and to discuss any support/training requirements to achieve those objectives. A mid-year interim review provides the opportunity to identify any issues and/or necessary changes. The ACP - made up of ten criteria articulating the full range of activities expected of staff at each academic level - is the key framework through which SRDS, probation and promotion are driven and emphasises the importance of research, skills development, and professional standing.

A wide range of additional support is available at unit, faculty and institutional levels, including:

- ECRs have a senior colleague to act as their research mentor, and a coaching scheme now operates in the iSchool to provide an experienced partner for staff planning a major grant application; in Journalism a similar role is undertaken by the Deputy Director of Research for ECRs. All ECRs are required - in collaboration with their mentor - to provide research plans detailing subject, publication and grant plans (including plans for impact thereof) for the next one and five years.

- Additional support and mentoring is provided for new staff, including:

  - Acting as PhD second supervisors alongside experienced colleagues to acquire the skills needed to provide independent doctoral guidance.

  - Sheffield has a 'Women's ECR' and professional networks to represent the interests of female staff at all levels

  - The Unit's ECR development programme for new staff covering, e.g., grant writing, publication and research ethics

- The Sheffield Futures Mentoring Programme provides female and Black, Asian and minority ethnic (BAME) academic staff with six months of mentoring from a senior colleague to support their career progression

- An annual "red-lining week" allowing academic staff to concentrate on research activities by putting a notional 'red line' through diaries indicating their unavailability for other activities

Such measures ensure that new staff rapidly establish themselves as independent researchers, as evidenced by the many outputs from ECR colleagues in the current submission, the promotion of ECRs in the assessment period (**Bates**, **Martins** and **Pukallus** to senior lecturer), and the promotion of **Pinfield**, an experienced practitioner initially appointed as a senior lecturer, to a chair.

As staff progress, the University provides a wide range of resources for career development, including the *Sheffield Leader* programme and the *Faculty Research Leadership* programme. The *Sheffield Leader* programme (undertaken by 13 staff) is designed both for staff already in senior leadership roles and for those identified as having potential to undertake such roles in the future. Other HR courses focus on the development of research capability and include "TRAM: The Researcher as Manager", a management development scheme designed specifically for ECRs and endorsed by the Institute of Leadership and Management.

The Unit provides several internal funding mechanisms to support research and impact activities, which totalled £568K over the assessment period. In Journalism, staff can apply for up to £2K p.a. for conference attendance and for up to £1.5K p.a. from the Research Stimulation Fund to pump-

prime research, initiate new ideas, support fieldwork, archive visits and the hosting of workshops. In the iSchool, staff are each provided with £1K annually to fund (principally) conference attendance (with additional support for staff having papers accepted for presentation at the iSchools conference) and there is a competitive seed funding scheme (£25K p.a.) to support network building, pilot studies, grant capture prioritisation and impact activities. Unit funding has enabled staff to invite international academics to visit to discuss common research interests, with, for example, visitors from Portugal (two), Slovenia and Sweden (two), as well as two 12-month visits funded by the China Scholarship Council and two (one from Spain and one from Sweden) by the Erasmus Staff Mobility Scheme.

All research staff are encouraged to present their research in the regular departmental research seminars, and are represented on committees bringing together academic staff, research staff and students.

2.2 Supporting collaboration and exchange with other organisations

Due to the Unit's extensive collaborations with a wide range of non-academic organisations (including public, private, and charitable sectors), successful staff exchanges, both to and from the Unit, are common. For example, **Pinfield** and **Wilsdon** spend part of each week at the Wellcome Trust working for the Research on Research Institute, **Mazumdar** is researcher in residence at the Connected Places Catapult developing a structured framework to evaluate urban planning outcomes, and **Clough** works part-time at Peak Indicators, a data analytics company. CFOM funded a three-day research secondment to Journalism for two staff from Free Press Unlimited and Article 19; and the chemoinformatics impact case study involved a staff member from the European Medicines Agency working part-time in the iSchool.

Such collaborations frequently result in recruitment of Unit research staff and students into a wide range of organisations (e.g., AstraZeneca, Eli Lilly, Evotec, Merck, BBC iPlayer team, HSBC project management, IBM Research USA, and IT management in an NHS Trust). Such employment is encouraged via *Think Ahead* (vide supra).

2.3 Recognising research achievement and impact

The Unit's Workload Allocation Model (WAM) provides all academic staff with 40% of their time devoted to research and impact activities, with further allocations for staff with additional research and leadership responsibilities (e.g., **Vasconcelos**'s directorship of one of the seven pathways in the ESRC White Rose Doctoral Training Partnership).

Staff are rewarded for carrying out research and achieving impact by promotion based on the ACP which includes three criteria focused on research: producing high-quality research outputs; securing external research funding and successful supervision of research students; and demonstrating the impact of the research outside of academia. In the iSchool, research groups are rewarded with a portion of the overhead of successful grant applications.

Both departments have an impact champion responsible for overseeing the development and implementation of departmental research impact and public engagement strategies (e.g., ensuring such activities are fully embedded within staff development processes, and overseeing internal funding applications to support case-study development). These procedures have resulted in 11 awards totalling £141K from, e.g., ESRC Social Sciences Partnerships Impact And Knowledge Exchange, HEIF, UKRI Global Impact Acceleration Account, ESRC Global Challenges Research Fund – Official Development Assistance, and the EPSRC Impact Acceleration Account ECR Scheme. The iSchool also provides seed funding to support development of future collaborative

relationships, and one of CFOM's core strands is an advocacy role providing a natural starting point for the development of such relationships.

The Faculty has a cohort of 'Research and Impact Associates', one of whom supports Unit staff by facilitating contacts with external, non-academic research partners, disseminating and translating research findings for use by policymakers and practitioners, and by collecting primary and secondary evidence of research impact by such user groups.

2.4 Staffing and recruitment policies

Research excellence is an essential criterion for those recruited to a research-active position, alongside the need:

- To support the Unit's future research objectives (e.g., the recruitment of **Jimenez**, **Vannini**, **Bentley** and **Dasuki** for research on ICT for Development, and of **Zhang** and **Harvey** for research on machine learning).

- To ensure the Unit's ability to address emerging challenges (e.g., Journalism's remit now includes not just traditional journalism studies and communication studies but also aspects of political psychology (**Chernobrov**), international law (**Katsirea**), contemporary European history (**Pukallus**), political communication (**Surowiec**), public communication **(Harrison)** and digital journalism (**Tong)**);

- To reflect the dramatic changes occurring in our world (e.g., the iSchool has made new appointments in both data science and critical data studies (e.g. **Mazumdar**, **de la Vega**; and **Bentley, Oman**), and both departments have made new appointments in social media, which will facilitate COVID-19 related work including addressing the problems of hate speech and dis/misinformation).

The Unit emphasises the need to build diverse teams, and particularly welcomes applications from currently under-represented groups (LGBTQ+, disabled, BAME, and female for strongly IT-focused positions in, e.g., data science, information systems and text mining), and uses Textio for advertisements and an external BAME recruitment company to reach and engage with a wider demographic of diverse talent.

The Unit is submitting 43 full-time and 3 part-time research-active academic staff. It is diverse: of the 46 Category A staff, 24 are female (including the current heads of both the iSchool and Journalism; up from 17 in REF2014), 9 are BAME, and 22 are non-UK citizens (from Argentina, Canada, the Caribbean Islands, China (2), Germany (2), Greece, India (2), Italy (3), Nigeria (2), Peru, Poland, Portugal (2), Russia, Spain and Taiwan; up from six in REF2014).

Since REF2014, eight staff members have subsequently left to take up positions in top-ranked institutions, demonstrating the Unit's international reputation and the quality of its development programme: two were appointed to senior lectureships in Qatar and the UK, five to chairs in Australia, China (2), Germany and UK, and one as a Pro-Vice-Chancellor in Australia. The University has demonstrated its continuing strong commitment to the Unit with new appointments that have enabled the Unit to grow substantially. The research excellence of new ECRs is exemplified by the grants that have already been obtained, e.g., **Checco** (Horizon2020), **Mazumdar** (UKRI Catapult), **Heywood** (ESRC), **Tomlinson** (Leverhulme Early Career Fellowship), and **Sbaffi** (Wellcome Trust).

All but one of the submitted staff are on open-ended contracts: this facilitates long-term strategic planning for the Unit, as does the demographic profile (18% of staff <= 34 years old, 39% 35-49, 42% >50).

An important part of SRDS (vide supra) is its use in succession planning, with roles and tasks being identified for individuals giving them the skills necessary to assume more senior positions in due course. As the Unit has expanded, a disaggregation policy has been adopted in which major roles have multiple deputies to share responsibilities, encourage skills development and increase the pool of potential successors. For example, in Journalism, the Research Director has an acting deputy and is supported by a Research Executive Team comprising the Head (a former Research Director), the PGR Director and a Research Support Officer from the Faculty Research Hub and the Departmental Manager; while in the iSchool the Research Director has three deputies.

2.5 PGR students

The Unit is committed to providing PGR students with a supportive environment where they can benefit from the wealth of experience available among the academic staff and, by being embedded in their primary supervisor's research group, be part of the wider research team. This is achieved through three key approaches: careful recruitment, comprehensive support and progress monitoring, and a focus on academic development.

Recruitment and funding

The principal requirements for recruitment are academic quality and fit to existing research interests, ensuring adequate supervision, and supporting the Unit's research strategy. Additional criteria are the need, where possible, to balance supervisory load across both staff and broader research areas, and to support staff development via a supervisory team comprising both an ECR and an experienced supervisor.

Whilst some PGR recruitment is staff-led through studentship applications to funding agencies (including 13 from the ESRC, EPSRC, AHRC and BBSRC between 2013 and 2018), due to our international reputations we attract student-led speculative applications from all over the world. Where possible, we seek to use studentships to enhance collaborations and impact with key organisations including, for example, CASE studentships in collaboration with the African Media Initiative, AstraZeneca, Evotec, Fondation Hirondelle, Lhasa and UNESCO.

Support and guidance are also provided for Unit Master's students considering staying in Sheffield for doctoral studies (with **Bath**, **Gillet**, **Goodale**, **Rutter** and **Willett** all MSc and then PhD students before making their careers in the Unit). Speculative applications from students are reviewed by relevant potential supervisors, i.e. those having subject/methodological expertise and the capacity to take on new students (to ensure quality of supervision, staff are not expected to supervise more than six PhDs). Demand is healthy with ca 80 applications p.a. enabling us to accept 10-15 new PhD students, with groups of new students joining the Unit twice a year.

Our PhD students are diverse: they are 60% female (against 58% male in REF2014), 18% have a disability, 7% are BAME; 46% are from the UK, 13% the EU and 41% from other countries.

Monitoring, progress, and support

A local induction procedure complements those provided by the Faculty and University, and introduces new arrivals to: their supervisory team and the PGR Director; key academic, administrative and technical staff; and the department-specific modules that are an important

component of the Doctoral Development Programme (DDP, vide infra). Each PGR is a member of their principal supervisor's research group (and research centre, if relevant) and participates in group activities and inter-group seminars. Computational facilities and desk space are provided in Journalism in a large, shared PhD room; in the iSchool each new PGR is accommodated with other research group members.

Faculty support comes from the Sheffield Methods Institute (SMI), an interdisciplinary community of methods-focussed academic staff that coordinates PGR training in FSS, providing a wide variety of short training courses and managing the online Social Sciences Doctoral Training Portal, which offers training resources on research methods, professional skills and working in an interdisciplinary environment. The portal particularly supports the 8% of Unit PGR students who are part-time or study at distance.

Interactions with wider University PGRs occur via the DDP (vide infra) and the faculty-wide research centres and networks (such as SIID and the Digital Society Network). Interactions with external PGRs working in cognate areas occur via: the iSchool funding PGRs to present work accepted for conferences; Unit funding for the Communication, Media and Journalism (Journalism) and iFutures (iSchool) conferences organised by the PGR students and involving students from other universities. PGRs also engage with and benefit from the ESRC White Rose Doctoral Training Centre in the Social Sciences, which offers a suite of workshops available to all Unit PGRs. A PGR student in Journalism is currently leading a faculty-wide PGR seminar programme.

PGR progress is closely monitored with at least monthly formal supervision meetings including minuted action points for both student and supervisors and with the PGR Support Officer checking if no supervision has been recorded in an 8-week period. Minutes form the basis for twice-yearly reports reviewed by the Unit, with intervention by the PGR Director to support students demonstrating unsatisfactory progress. After 10.5 months PGRs have a confirmation review, which involves an oral *viva* examination and substantial written work to ensure their suitability for doctoral-level study, followed by a submission review at the start of the third year to confirm that the student is on-track for successful completion.

Training and academic development

The DDP plays a key role in PGR training and involves an annual training needs analysis (TNA) to identify research and transferable skills. All Unit PGRs take compulsory courses in research ethics and integrity, and 'Doctoral Training in Information Studies/Journalism Studies'. The discipline-specific DDP modules include sessions on the Vitae Researcher Development Framework, on graduate teaching (where PGRs are encouraged to participate in the Sheffield Teaching Assistant programme, for which full training is provided), on how to get published and how to get a book contract; and in Journalism the annual International Journalism Week gives students an overview of media research and practice from a global perspective. A wide range of optional skills courses are available in the DDP covering, e.g., public speaking, academic writing for non-native English speakers, and career management, as well as the *Think Ahead* programme (vide supra). The University's Careers Service provides general advice on writing CVs and interview techniques and has specialist advisers who provide individual career consultations to explore career paths, advise on applying for jobs and opportunities, etc.

There are extensive opportunities for PGRs to present their work at, e.g., their confirmation review, research seminars to individual research groups and their department, to other PGR students in the Faculty and student-run PGR conferences.

The following additional support mechanisms are provided (and detailed in the Sheffield *Code of Practice for Research Degree Programmes*):

- In addition to their supervisory team, students have an independent personal tutor to provide pastoral support.

- Students are represented on the Research Staff/Student Committee and the Unit is represented on the PGR Faculty Forum, which meets twice yearly to address issues affecting PGR students across the Faculty.

- Journalism provides £2.5K p.a. for PGR support to cover conference attendance etc. All iSchool PGRs have £900 to cover research and conference attendance costs over the course of their studies, plus up to £350 per conference where they have a paper accepted for oral presentation.

These support mechanisms have resulted in our PGRs giving the Unit high scores in the Postgraduate Research Experience Survey - 83% are satisfied with their experience and 87% are confident they will complete their research within the expected timescale - and in the award of 82 doctorates in this assessment period (as against 67 for REF2014), with 83% within the time limit. The Unit also supports staff with professional backgrounds who wish to obtain a doctorate, with **Birdi**, **Harcup** and **McKinney** all completing their PhDs during the assessment period. The quality of the research is exemplified by the submitted outputs that include PhD student authors (e.g., Cox17, Gillet19, Rutter19, Willett14), these coming from among 112 PGR co-authored refereed publications. Recent PhD graduates have gone on to further roles in academia (e.g., **Rutter**, now a lecturer in the iSchool; Rivera González, now Profesor - Investigador at the National Polytechnic Institute of Mexico; Wakeling now lecturer at Charles Sturt), or taken up prominent roles in industry (e.g., Shagbahi at HSBC; Ghiandoni at AstraZeneca; Seddon at BenevolentAI).

2.6 Equality, diversity, and inclusion

Sheffield's longstanding commitment to creating an inclusive and diverse workplace is detailed in the institutional statement and reflected in the Unit's policies and procedures. **Zamani** and **Meacham** are EDI Directors in the iSchool and Journalism, for which each have a 100-hours WAM tariff, and actively encourage their colleagues to undertake and update their EDI training.

The iSchool applied for an Athena SWAN Bronze award in 2018. Like many initial applications this was unsuccessful but panel feedback stated "The School seems genuinely committed to EDI" and the application has now been resubmitted. EDI is a standing item at both staff and Strategy Group meetings and the EDI Director sits on Strategy Group. The membership and terms of reference of iSchool and Faculty committees are monitored regularly for gender imbalance. **Birdi** is Faculty Co-Director of EDI and has led on a range of new initiatives and is a member of the Faculty Executive Board, Faculty Research and Innovation Committee and the University's EDI and Gender Equality Committees, ensuring that the Unit contributes strongly to Faculty and institutional priorities. Journalism's EDI Director is a permanent member of the departmental Executive and is the Athena SWAN Self-Assessment Team (SAT) chair; members of the SAT received allocated workload hours to develop an EDI action plan during 2020-21. Journalism has established a Race Equality Advisory Group consisting of staff and 10 PGR students to produce recommendations for actions to advance its race equality work.

Sheffield is one of only two universities amongst the 25 top employers in *Where Women Work*; is in the pilot phase of the White Rose Gender Equality College, which seeks to highlight gender equality challenges across the world and provide academic teams with access to both expertise

and tools to empower positive change within their own research areas (**Birdi** is a Gender College Member); and is addressing EDI issues in recruitment, as above.

The Unit's two departments comprise 24 female (F) and 22 male (M) individuals and the Unit's submitted outputs are balanced across genders (50.5% F outputs from 52.2% F staff). Monitoring the number of publications considered as likely submissions by gender and FTE enabled the provision of support to increase the number of eligible, quality publications for all staff. This was achieved using the WAM by making adjustments for staff with large teaching and/or administrative workloads, providing them with more research time. The Unit then followed the Sheffield Code of Practice to select the output folio, with all staff involved in REF decision-making having undertaken training on the implications of the Equality Act 2010, and on how to apply equal opportunities legislation to the REF.

2.7 Flexible working and wellbeing

The Unit adheres to University policies, which acknowledge the positive impact of flexible working for the individual and the department. Such arrangements may be informal or formal, temporary or permanent. Requests are assessed on employee needs (e.g. caring responsibilities) and departmental business needs. Staff are provided with relevant information and advised on how to request flexible working arrangements.

In the iSchool, two staff on part-time contracts have increased their hours when family commitments have permitted, and three staff have working hours that fit with childcare arrangements; while in Journalism special timetabling arrangements were made to support one member of staff with caring responsibilities. Sheffield regulations make provision for PGRs to pursue all or part of their research remotely; two female PGR students in the iSchool have been given permission to do this for EDI reasons. Part-time staff receive the same level of support as full-time staff so that, e.g., while working P/T **Birdi** was promoted to senior lecturer and both **Birdi** and **McKinney** were awarded their PhDs.

The Unit follows the institutional policies in supporting staff returning from periods of leave, e.g.:

- The *Women Academic Returners' Programme* provides support (up to £10K) either during the period of parental leave or upon return to work, to minimise the impact of leave on research activities.

- The use of a phased return, where a member of staff returns to their full range of activities gradually, over a defined time period. Three Unit staff have recently used phased returns following illness, and one is allowed to work from home more frequently than normal to encompass their caring responsibilities.

- PGRs returning from medical leave can also have a phased return to study, and can apply for a change in candidature from full-time to part-time. Where appropriate, a student may also be advised to register with central University facilities (e.g. Disability and Dyslexia Support Service and the University Counselling Service).

All research-active staff can apply for a one-semester study leave every four years. This provides a strategic opportunity to focus on specific research activities that would be difficult to undertake in normal circumstances (e.g., preparation and submission of a major grant proposal, completion of a book or papers resulting from a completed project, or a collaborative study involving extensive fieldwork away from Sheffield). In addition, departmental heads are provided with one-year of study leave on completion of their period of office to enable them to re-engage with their research. 12 staff (5F and 7M) have been awarded study leave during the assessment period with outcomes

exemplified by: **Steel** developing the £420K AHRC project "Defining freedom of the press: A cross national examination of press ethics and regulation", **Pinfield** developing the £162K AHRC project "Open Access in Theory and Practice"; and submitted outputs (e.g., Birdi18, McKinney19).

The University provides extensive wellbeing support for staff and PGRs, e.g., a confidential helpline and counselling service, an ongoing collaboration with Mind, support networks for specific staff groups (e.g., LGBTQ+, parents, adopters, disabled, and BAME), and the multi-faith chaplaincy service, as well as the Student Service Information Desk (in the Student Union - the winner of the Whatuni Student Choice Awards 2017-20) which supports the wellbeing of PGRs.

These functions are complemented by the workload allocation model and SRDS to ensure equity in duties and an appropriate work-life balance. Maintaining such a balance is one of the wellbeing issues discussed in the PGR Doctoral Training Module, which also addresses, e.g., concerns about progress and the relationship with supervisors. Finally, there is the normal range of social activities for both students and staff, e.g., regular pub evenings, summer barbecue, Christmas party etc.

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3. Income, infrastructure and facilities

3.1 Funding and income generation

The Unit has a strong funding record, achieving a 56% increase since REF2014, with support coming principally from UKRI and the EU, but also from a wide range of public, private and charity organisations (e.g., Department of Health, Free Press Unlimited, IPSO, UNESCO, Leverhulme Trust, Unilever Research, and Wellcome Trust). These awards have been achieved as a result of the sustained efforts of staff and a set of support mechanisms designed to increase the number and quality of applications, as well as a strategy of encouraging submission to responsive mode calls, with our multidisciplinary nature permitting submissions to a range of funders.

Working in collaboration with the Faculty Research Hub, the departmental Research Directors ensure that staff are aware of funding calls across the full range of Unit interests, with a colleague in the iSchool with specific responsibility for overseeing GRCF applications. Seminars and workshops for new staff are led by experienced staff, and focus on identifying funders, developing proposals, and pathways to impact and KE. There is a detailed review procedure for all external applications in which feedback is first provided in the Unit by a senior member of staff (and in the case of ECRs also often by their research mentors) and then by Faculty, with appropriate modifications before submission.

These mechanisms have resulted in awards totalling £3.79M over the funding period (as against £2.48M in REF2014), with the increased support coming mainly from UKRI (£1.88M as against £625K) and the EU. The percentage of staff acting as investigators on externally-funded projects is high with 44% of staff acting as a PI in this assessment period. Notable awards that exemplify the wide range of funders include:

- "FashionBrain" - a Horizon2020 award (€2.9M over 24 months, £332K to the iSchool) to a six-partner consortium led by **Checco** (an ECR) to study data challenges facing the European fashion industry using NLP, image recognition and trend prediction techniques. The project resulted in increased revenue per customer for Zalando and new, multinational customers for MonetDB Solutions' analytics software (two of the industrial partners in the collaboration).

- "Diagnostic and Drug Discovery Initiative for Alzheimer's Disease" - a Marie Curie award (€2.2M over 48 months, £188K to the iSchool) to a four-partner consortium with **Gillet** as Co-PI to develop chemical biology tools to enhance understanding of the role of the cellular prion protein in Alzheimer's disease and to use this knowledge to design new molecules for diagnostic and therapeutic applications (de la Vega18).

- "An Evaluation of the Impact of Online NHS111 on the NHS111 Telephone Service and Urgent Care System" - a Department of Health award (£356K over 16 months to the iSchool) with **Bath** as Co-I that is studying the relative merits of the new and the existing NHS111 services, and whether any changes are needed to improve the advice provided to people who use it and make it more accessible and easy to use.

- "Defining Freedom of the Press" - an AHRC award (£420K over 36 months, £237K to Journalism) to **Steel** that is studying how press councils in comparable jurisdictions from around Europe approach the difficult questions in media ethics of balancing freedom and responsibility.

- "Research on Research Institute" is a Wellcome Trust project (£3.2M over 48 months, £324K to the iSchool, with **Wilsdon** and **Pinfield** the Director and an Associate Director) that is bringing together research funders, researchers, policymakers and technologists to provide data, analysis and intelligence on current challenges in research.

3.2 Research support infrastructure.

The Faculty supports excellence in research through the Research Hub, where dedicated teams provide advice on external grant capture, impact, KE, partnerships and external communications. This includes supporting the internal peer review process; identifying research opportunities for staff; running cross-faculty researcher development sessions on winning grants; and ensuring that research outputs are made OA. The Hub's unit-specific teams are complemented by an Faculty-wide team that supports research across the Faculty through its nine interdisciplinary research centres and institutes.

The Unit's academic staff are supported by a total of 29 professional services staff, including five with specific responsibilities for IT or media support, and two with specific responsibility for PGR support (plus the support provided by the Hub).

The principal scholarly information resource supporting research is the University Library. This provides access to ca. 1.1M printed volumes and a wide range of digital resources (including e-journals from all major academic publishers). Ongoing investment in library collections ensures that staff have access to specific materials that they need to support their research, e.g., increased access to digital news archives to support research and outputs from CSJH (e.g., Conboy15).

Some of the iSchool's computational research makes use of an internal Ubuntu server network, and of the central Sheffield 2024-core ShARC parallel processing system. There are two specialist facilities within the Unit: the iLab (vide supra), and four digital newsrooms that support research in media production. The Joint Academic Data Science Endeavour - the largest GPU facility in the UK - has been used by the Unit to support machine learning research in chemoinformatics (de Leon18). Industry-standard software, e.g. the MOE software from Chemical Computing Group, has been provided by major companies to support the Unit's chemoinformatics research.

> ## 4. Collaboration and contribution to the research base, economy and society

4.1 Collaboration

The Unit has a strong track record of collaboration, both within the University and with other institutions, and in engaging with various stakeholders and potential research beneficiaries. This is underpinned by a strategy embodied through a number of support mechanisms and activities as detailed in the following.

The Hub provides a central source for supporting collaborative activities; and Unit staff are encouraged to initiate links proactively with both public and private sector organisations (alongside Unit funding to pump-prime this). The Unit's international reputation means that it is invited to participate in a wide range of research collaborations, the longest being that linking the iSchool with the South-East European Research Centre for over ten years, with two PhD completions and three ongoing in the assessment period. 32% of Unit research awards have involved at least one international collaborator, as have 36% of publications, and half of the publications involved collaboration with at least one other institution.

Many of the Unit's national and international academic collaborations are part of jointly-funded major research projects, e.g. with: Leeds and Durham (AHRC); City (AHRC); Edinburgh, Kings, Lincoln, Nottingham, and Warwick (ESRC); Lisbon (Framework 7 Marie Curie); Edinburgh, Haifa, Open University of Cyprus, and Trento (Horizon2020); Beuth and Fribourg (Horizon2020); Liverpool and Manchester (Innovate UK); Leiden University (Wellcome Trust); and the University of Javeriana, Colombia (Newton). The success of the Unit's collaborations is exemplified by many submitted outputs (e.g., Bath15, Checco18, Foster17, Hopfgartner18, Lin18, Pinfield19, Reilly20, Rutter20).

Interactions with research beneficiaries underlie much of the collaborative research described elsewhere, e.g., work with the UK's largest charity supporting breast cancer sufferers in the "A Shared Space and a Space for Sharing" project; with press regulators in 13 European countries in the "Defining Freedom of the Press" project; and with several pharmaceutical and software companies in the chemoinformatics ICS. The latter exemplifies the long-standing nature of some of these interactions, since one of the beneficiaries (GSK) has been funding iSchool research since 1994 (as have AstraZeneca and Eli Lilly).

Other recent examples include:

- **McKinney**, **Sbaffi** and **Cox** are working with three health organisations, including Diabetes.co.uk, the IBS Network and ParkRun.org.uk, to investigate how fitness-tracking apps can benefit runners suffering from specific diseases.

- **Martins** and colleagues in the Management School are working with firms and policymakers in the Sheffield City Region, Innovate UK and the CBI to help regional firms identify and exploit innovations that can enhance their capacities and capabilities.

- The Unit's long-standing research on various aspects of information literacy and information behaviour (e.g., McKinney19, Sbaffi17, Webber18) has formed the basis for the CILR Information Literacy Weblog, directed by **Webber**. This has become a leading source of information for people working in the library and information professions worldwide, with some 1.67M page-views from all five continents since 2014.

- Work by **Cox** with White Rose library staff as part of the iSchool's continuing interests in research data management (e.g., Cox19) led to the development of a package of training materials for information professionals that is now used by academic libraries in the UK (as recommended in the UKRI Concordat on Open Research Data) and also in Australia, Ireland and the USA.

- **Harrison** is working with Free Press Unlimited in partnership with HURIDOCS, The Justice For Journalists Foundation and the Nigerian Press Tracker to develop a mechanism for strengthening the monitoring of violations against journalists.

4.2 Wider contributions to the economy and society

The strong professional focus of many of the Unit's activities means that much of its research contributes to society more generally. In addition to the impact case studies above, examples of funded research with wider reach include:

- As part of the six-partner ESRC project "A Shared Space and a Space for Sharing" (£1.01M, £265K to Sheffield) **Bath** studied the use of online health fora by people with life-threatening conditions. Working in collaboration with Breast Cancer Now, information sheets were developed for breast-cancer sufferers, healthcare professionals, and people with general health conditions seeking support. These are now being used by both local cancer organisations and breast-cancer teams in NHS trusts nationwide.

- "Improving Resilience to Crises and Disasters through Preparedness and Experiential Feedback" was a Horizon2020 project (€4.3M, £214K to Sheffield over 36 months) that studied how social media can help response and recovery times during natural and human-made disasters. The iSchool team under **Reilly** developed a communications strategy that enables emergency services and incident managers to raise public alertness when disasters occur.

- "Open-access mega-journals and the future of scholarly communication" was an AHRC award (£420K over 24 months, £240K to Sheffield) to a Sheffield-Loughborough team led by **Pinfield** to study a new class of OA journals that have massive subject scopes. The project resulted in the provision of strategic advice to many of the major academic publishers who belong to the Association of Learned and Professional Society Publishers and to the Society of Scholarly Publishers (Pinfield19, Willett20).

- "Radio and Women's Empowerment in the Sahel" is an ESRC award (£161K over 18 months) to **Heywood** that will contribute to improvements in perceptions and representations of women's rights and empowerment by using NLP to analyse outputs from radio stations in Mali, Niger and Burkina Faso.

- As part of the five-partner Horizon2020 "CyCAT" project (€1M over 36 months, €128K to Sheffield) **Bates**, **Clough** and **Hopfgartner** are working on methods to make clear to the general-public the biases that exist in the algorithms used by internet giants such as Amazon, Google, and Facebook.

4.3 Engagement with the public and communities

The approach of embedding professional focus in much of the Unit's research results in extensive engagement with many non-academic communities, e.g.:

- Working with the Independent Press Standards Organisation (IPSO) **Harrison** and **Katsirea** have studied publishers' editorial standards and how standards of complaints handling have changed within the industry.

- Since 2016, **Abbott** has been the project head for the LIBSENSE project. This project was started by the West and Central African Research and Education Network to bring together the research and education networks and academic library communities in Africa with the aim of strengthening open access and open science in the African subcontinent.

The Unit is also involved in many varied activities aimed at the general public. It contributes to the annual ESRC Festival of Social Science event with 11 events to date, e.g., **Harrison** organized a Question Time in Sheffield's Crucible Theatre in 2015 on Media Freedom and Journalism Safety, and in 2017 **Reilly** ran an event for local schools based on his research into the use of social media during disasters. Other activities include the annual "Inform" booklet, which presents examples of iSchool research at a level suitable for a lay audience; a play developed with the Dead Earnest Theatre Company on breast cancer derived from the £1.01M ESRC "A Shared Space and a Space for Sharing" project directed by **Bath**.

The Unit's principal contribution to the discipline sustainability over the assessment period has been the 25 PGRs and RAs who have taken up academic posts on leaving Sheffield, including in China (4), Malaysia (2), Netherlands (2), and UK (11), and one in each of Chile, Pakistan, Saudi Arabia, Spain, Sweden, and Thailand. In addition to many collaborative PGR projects with both academic and non-academic partners, the Unit is involved in more formal collaborative arrangements for PGR training:

- The institution is part of the AHRC White Rose College of the Arts & Humanities (WRoCAH), which provides doctoral training in collaboration with Leeds and York. The Unit plays a key role in the Creative Arts and Media Academic Subject Cluster (which has been chaired by **Conboy** and by **Harrison**), leading its Journalism and Publishing and its Library and Information Science streams. Since the creation of WRoCAH, the Unit has been awarded three PhD studentships.

- In association with other European iSchools, **Bath** is developing plans to support PGR students across the iSchools, and is chair of the European iSchools Doctoral Seminar Series established in 2020.

- Sheffield is part of the ESRC White Rose Doctoral Training Partnership, which offers a range of studentships and fellowships in the social sciences in a collaboration of seven northern universities. **Vasconcelos** is the director for the Data, Communications and New Technologies Pathway (one of seven such pathways).

The Unit's response to national and international priorities is exemplified by the six awards to date (totalling £46K) for GCRF projects involving Bangladesh, China, Malawi, Mexico, Peru, and Rwanda. In addition to this, the Unit is already involved in two COVID-19-related research projects:

- "Using Radio and Social Media to Address Misinformation about COVID-19 amongst Internally Displaced Persons in Burkina Faso" is an ELHRA (Enhanced Learning and Research for Humanitarian Assistance) award (£114k over 9 months) to **Heywood** to extend her previous work on the use of radio stations in countries in the Sahel to address specific problems arising from the coronavirus.

- When patients suspect they have the virus and contact emergency services (via NHS 111, 999 ambulance services etc.), a rapid decision needs to be taken as to whether they need

to be admitted to hospital and how they should be treated. In collaboration with colleagues in ScHARR, **Bath**, **Hopfgartner** and **Mazumdar** are using data and text mining methods to analyse patient records to determine the effectiveness and accuracy of this decision process (£270k total).

4.4 Wider influence, esteem and recognition

Staff have made 73 keynote or invited presentations in the UK and 91 in 31 other countries covering all five continents. They have been the editors or associate editors of *African Journal of Information Systems*, *Chinese Journal of Communication*, *Computational Molecular Science*, *Electronic Journal of Information Systems in Developing Countries*, *Frontiers in Communication - Political Communication*, *Health Informatics Journal*, *Journal of Information Technology*, *Journalism*, *Journalism Practice*, *Journalism Studies*, *Online Information Review*, and *Palgrave Communications*; and guest editors of special issues in nine other journals. They have been on the editorial boards of 46 academic journals, these including both broadly based (e.g., *Information Research*, *Journal of Documentation*, and *Journalism*) and more specific (e.g., *Ethical Space: The International Journal of Communication Ethics*, *International Journal of Information*, *Diversity and Inclusion*, *Journal of Cheminformatics*, *Media History*) journals for the respective disciplines; and have reviewed for very many others. **Willett** was joint editor in 2014 of the six-volume *Computational Molecular Science*, and **Conboy** is the general editor of the forthcoming three-volume *The Edinburgh History of the British and Irish Press*.

Further evidence of esteem includes:

- Fellowships from the Chartered Institute of Library and Information Professionals **Cox**, **Webber**; from the Royal Historical Society **Conboy**; the Higher Education Academy **Chernobrov, Cox**, **Goodale, Harvey, Heywood, Hopfgartner, Katsirea, Martins, Pukallus, Reilly, Sbaffi, Steel;** and the Academy of Social Sciences **(Harrison).**

- A wide range of evidence from user communities, policymakers etc., e.g.: **Bates** Invited international expert for Canadian Federal Parliament's Standing Committee on Government Operations and Estimates; **Conboy** endorsements for books published by Bloomsbury, OUP, Palgrave; **Harrison** awarded UNESCO Chair on Media Freedom, Journalism Safety and the Issue of Impunity; **Willett** honorary membership of Molecular Graphics and Modelling Society (one of only nine in the world).

- Staff have acted as reviewers for grant applications for the AHRC, BBSRC, EPSRC, ESRC and MRC, and for 18 other grant-award committees in the UK, EU and nine other countries with **Reilly** and **Bates** both having been members of the AHRC Peer Review College and **Gillet** a member of the Advisory Board of AI3SD: AI for Chemical Discovery EPSRC Network.

- Organisation of major international conferences. The Unit has been the host organisation for iConference2018 (ca 450 attendees), and the seventh (2016) and eighth (2019) Sheffield Joint Chemoinformatics Conference (each ca 125 attendees). Journalism also hosts the annual International Journalism Week, and a CFOM event, recognised by UNESCO, to mark UNESCO's annual International Day to End Impunity. The iSchool is the co-organiser for the biennial ISHIMR (International Symposium for Health Information Management Research) meetings, the eighteenth of which took place in September 2020, and of the biennial Data Power Conferences, the third of which took place in September 2019 in Germany. In addition to the conferences it organizes, unit staff have contributed to

over 125 conferences (many of which occur regularly) as members of the steering or programme committees.

- Prizes including: **Abbott** 2014 Association for Information Systems best information systems publication, **Bates** 2019 *Journal of Documentation* Emerald Literati Highly Commended, **Bates/Checco** 2018 Proceedings of the AAAI Conference on Human Computation and Crowdsourcing best paper, **Birdi** iSchools Doctoral Dissertation Award, 2016 runner-up (first ever European prize-winner), **Mazumdar** 2019 International Conference on Dependable Systems, Services and Technologies best paper, **Reilly** 2015 JISC 50 most influential UK HE professionals using social media, **Surowiec** member of team for 2019 President of the Czech Science Foundation €150K award for research excellence, **Webber** 2015 UK e-information Group Jason Farradane Award.