

<p><b>Institution:</b> Leeds Beckett University</p> <p><b>Unit of Assessment:</b> Unit 24 – Sport and Exercise Science, Leisure and Tourism</p> <p><b>1. Unit Context and Structure, Research and Impact Strategy</b></p> <p><b>1.1 Overview and Context</b></p> <p>Our submission comprises <b>76 staff</b> (up from 53 staff in REF2014) from two Schools at Leeds Beckett University (LBU): the <b>Carnegie School of Sport (CSS; n=59)</b> and the <b>School of Events, Tourism and Hospitality Management (ETHM; n=17)</b>. Collectively and purposefully driven by a focus on making a <i>“positive and decisive difference to people, communities and organisations”</i> (<b>LBU Strategic Planning Framework, 2016-2021</b>), we deploy innovative, high-quality research that impacts on local, national and international policy and practice. Pursuing an inclusive and ambitious research agenda, we cross the broad spectrum of the sciences, social sciences, and humanities. Our research culture is founded upon a genuine commitment and capacity to work <i>with</i> others on real-world applied interdisciplinary problems, to achieve impact beyond academia, for the benefit of wider society.</p> <p>Since REF2014 we have further enhanced our research environment through strategic investment in staff and students (Section 2), infrastructure and facilities (Section 3), and partnerships and collaboration (Section 4). Notable achievements include:</p> <ul style="list-style-type: none"> <li>• £45M investment in a new state-of-the-art building for the Carnegie School of Sport.</li> <li>• Six-fold increase in research income (from £1.2M to £7M).</li> <li>• Substantial rise in PhD completions (from 47 to 91), current doctoral study registrations (from 42 to 180), competitively awarded PhD studentships (from 22 to 75) and Graduate Teaching Assistant appointments (from 10 to 28).</li> <li>• Growth in the Unit and network of Research Centres in response to strategic appointments and income generation (37/76 staff in the submission are new appointments since REF2014).</li> <li>• Strengthened links with research beneficiaries, communities, practitioners and policy-makers at local, national and international levels.</li> </ul> <p><b>1.2 Research Ecosystem</b></p> <p>We recognise that impact starts and ends with the societal change we seek to address, rather than the research problem or project we have created. Congruent with the <b>University’s Strategic Planning Framework</b> and enabled by our six <b>University-Designated Research Centres</b> (Figure 1), our applied and interdisciplinary research ecosystem is designed with clear purpose, coherence and energy. Research investment is targeted towards multi- and interdisciplinary Research Centres that bring together expertise and build critical mass.</p> <div> </div> <p style="text-align: center;"><small>Figure 1. Research Ecosystem of Unit 24 – Sport and Exercise Science, Leisure and Tourism</small></p>
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### 1.3 Strategic Research Centre Developments Since REF2014

#### *i) New Research Centres and Themes*

Since REF2014 we have continually reviewed our infrastructure to ensure fitness-for-purpose and alignment between our programmes of research, curriculum, and knowledge exchange activities. Responding to strategic opportunities for growth (e.g., externally funded research activity, appointments, and partnerships), we launched two new Research Centres – the **Applied Obesity Research Centre (AORC)**; led by Profs Gately, Cooke and Ells) and the **Carnegie Applied Rugby Research Centre (CARR)**; led by Profs Jones and Till). **AORC** works with policy, practice and community partners, and those living with or at risk of obesity, to deliver the highest quality research to improve understanding of how obesity develops, and to co-create effective prevention and management approaches. **CARR** works with rugby union and rugby league professional clubs, international and national governing bodies, as well as sports technology companies, to increase the effectiveness of talent identification and development strategies, while improving player performance, and reducing the risk of injury and illness. Led by Prof Sparkes, we also established the **Advancement of Qualitative Methodologies in Sport and Physical Culture Theme** to provide resources to underpin the use of qualitative research conducted by staff and students across our Research Centres. Within each Research Centre, Research Themes have been formally recognised, underpinned by collaborative research projects (e.g., Protecting Sporting Integrity and Welfare in the **Centre for Human Performance**; Coach Learning, Development and Education in the **Centre for Sport Coaching**).

#### *ii) Leadership and Accountability*

Recognising that leaders drive research excellence and impact, we have appointed new Centre Directors; Prof Norman (**Centre for Social Justice in Sport and Society**), Prof O'Hara (**Centre for Human Performance**) and Dr North (**Centre for Sport Coaching**). Prof McKenna continues to lead our **Centre for Active Lifestyles**. Centre Directors ensure our continual focus and investment in Research Themes of societal significance. By adopting this approach, we safeguard our sustainability and impact. Research Centres are accountable for their activity, providing annual reports on their current and planned activities to the Director of Research (Prof Backhouse). These reports are reviewed at the University Annual Accountability meeting, chaired by the Vice Chancellor.

#### *iii) Integrative and Collaborative Approach*

This strategic evolution over this REF period has enabled Research Centres to become more coherent, intellectually creative and impactful mechanisms where like-minded researchers develop themselves and one another; this ensures growth within and between Centres. Through this non-hierarchical and networked system, we continue to develop and enhance the capabilities of our staff and students. This deliberately integrative approach has successfully encouraged both staff and students to establish fluid connections and collaborative interdisciplinary exchanges. These exchanges have generated a profound increase in the depth and rigour of our research addressing real world problems, leading to greater impact. Our culture is one of enablement and facilitation, rather than prescription. Driven by purpose, coherence and flexibility, our research community increasingly responds to the context and complexity of the challenges we address.

### 1.4 Research and Impact Strategy

Our **Strategic Plan 2021** aligns with the overarching aims and objectives of the **LBU Strategic Planning Framework, 2016-2021**. Led by the Director of Research (Backhouse), and supported by Deans of School, Heads of Subject and Directors of Research Centres, it focused on four strategic objectives:

## Unit-level environment template (REF5b)

- Develop, recruit, and retain staff capable of leading independent programmes of impactful research.
- Sustain existing and develop new doctoral programmes (e.g., Professional Doctorate in Sport) in areas of significant research strength.
- Grow and maintain diverse income streams and secure infrastructure investment to support our impactful research.
- Ensure our research informs, and is informed by, stakeholders and beneficiaries.

Our strategy for pursuing these objectives, during the REF2021 period and beyond, involves several initiative and investments. Our achievements in relation to our strategic objectives are now considered.

***i) Develop, Recruit, and Retain Staff Capable of Leading Independent Programmes of Impactful Research***

Our strategy targeted recruitment of research independent academic staff – as well as those working towards research independence - with interests aligned to our Research Centres, and curriculum portfolio. For example, we appointed (n=8) and promoted (n=15) **Professors** and **Readers** to ensure strategic research leadership (**Professors** Backhouse, Beggs, Buda, Cooke, Cooper, Fitzgerald, Jones, O'Hara, Norman, Pritchard, Schilders, Seetaram, Till, Wood, Woods; **Readers** Dashper, Fletcher, Griffiths, Ispoglou, Lara-Bercial, North, Quarmby and Watson). We also made strategic appointments at **Lecturer** (n=19) and **Senior Lecturer** (n=47) level, to ensure the sustainability of our research environment. This includes the recruitment and retention of early career academics. We also appointed twelve **Postdoctoral Research Fellows** through external funding.

Consistent with our ethos of being a developmentally-focused unit, 16 colleagues have been awarded sabbaticals (semester-long **REF2021 Fellowships**) via £400K investment of our QR income (Alder, Campbell, Daly-Smith, Dashper, Didymus, Emmonds, Griffiths, Hanley, Ispoglou, Kaiseler, Patterson, Stanger, Price, Quarmby, Rongen, and T.Williams). Five Fellowship recipients have already secured subsequent promotion to Reader (Internal: Griffiths, Dashper, Quarmby, Ispoglou; External: Daly-Smith, to University of Bradford), demonstrating how this mechanism for developing research excellence has accelerated career progression. The Fellowships have also connected to our strategic research vision, through strong engagement with policy-makers and research beneficiaries.

We committed £283K of QR income over this REF period by awarding 85 **Research Development Grants**, providing (i) **First Grants** for early career researchers (e.g., Bond, Didymus, Lamond); (ii) **Impact Facilitation Grants** (e.g., Backhouse, Erickson, Patterson produced a short-film illuminating the reality of blowing the whistle on doping in sport with the **Northern Film School** (For details of our impact, see our Anti-Doping Impact Case Study), and; (iii) multi- and interdisciplinary teams with **Network Grant** funding (e.g., Prof Norman brought together Profs LaVoi (**University of Minneapolis**), Knoppers & De Haan (**Utrecht University**) to undertake a global study of national football coaches; Prof McKenna secured funding to support the **Yorkshire and Humber Physical Activity Knowledge Exchange** (YoHPAKE)).

***ii) Sustain Existing and Develop New Doctoral Programmes (e.g., Professional Doctorate in Sport) in Areas of Significant Research Strength***

Since 2014, we have successfully targeted growth in our postgraduate researcher (PGR) community to further enhance the vibrancy of our research environment. Growth has been

achieved through a rigorous recruitment policy and offering competitive and strategically-relevant PhD studentships (i.e., industry match-funded and School-funded). Over the REF period, we have therefore invested £4.5M in **PGR students** and **Graduate Teaching Assistants** (providing a career development pathway for research and teaching). Currently, 180 students are registered for doctoral awards (73 FT, 107 PT), representing an increase of 329% since REF2014 (n=42). This includes 23 professionals registered on our new **Professional Doctorate in Sport (PD)** programme. We are growing the PD programme further by diversifying the range of professions registering for it. Further, we will continue to make strategic investment in doctoral training programmes to develop and educate future leaders of our disciplines, industries, and communities.

PhD completions have nearly doubled; from 47 across the REF 2014 period to 91 for REF2021. To ensure succession and sustainability, we implemented a number of mechanisms to support progression and clear lines of responsibility for postgraduate research students within the Schools, including the appointment of Prof Fitzgerald (**CSS**) and Dr Dashper (**ETHM**) as **Directors of Postgraduate Research**. The employability of our PGRs is of vital importance to our students, and also the vibrancy of our PGR community, through continued recruitment to our doctoral programmes. During their registration, we focus on helping students acquire skills in research, teaching, and industry. Doctoral students awarded their PhDs over the REF period have been successful in securing postdoctoral and academic positions within **CSS** (n=21), other HEIs in the UK (e.g., at Bristol, Cardiff Metropolitan, Coventry, Durham, Exeter, Newcastle, Northumbria and Sheffield Hallam) and overseas (e.g., University of Canterbury, New Zealand; Australian Catholic University), as well as in industry (e.g., USA Cycling, Leinster Rugby, UK Coaching).

### ***iii) Grow and Maintain Diverse Income Streams and Secure Infrastructure Investment to Support our Impactful Research***

Over the REF period, the University invested £45M in a purpose-built home for the **CSS**. The new building is a physical manifestation of how we work *with* our community; integrating our research, teaching and knowledge exchange portfolios within one physical space. Equipped with state-of-the-art equipment - procured in part via a research partnership model with industry leaders (e.g., **Perform Better**, **Catapult** and **Cranlea**) - this long-term investment recognises the excellence of our contributions and ensures the sustainability of high-quality programmes of research, and impact.

Since 2014, our awarded research income has grown six-fold (from £1.2M to £7M). This improvement is especially notable given our income predominantly supports our sport and social science research. For example, we secured a prestigious **EU Marie Curie Individual Fellowship** (Dr Pang, €180,000). Supporting this improvement in research awards was the University-wide support for grant writing. In this, dedicated funding advisors work closely with colleagues to alert them to research opportunities. An established grant review process also provides development feedback, while supporting capability-building and persistence for submitting competitive bids.

These processes were instrumental in the submission of large-scale (£1M plus) collaborative bids to prestigious funders (e.g., European Research Council, Economic and Social Research Council, Public Health England (PHE) and Medical Research Council) to advance our Tourism and Obesity-related research programmes. Our recent ERC Tourism bid was short-listed, suggesting the likelihood of success in subsequent, revised, bids. Over the next REF period, we will continue to bid for prestigious peer-reviewed grants to secure the conditions that will extend the successes of Research Centres and Research Themes.

**iv) Ensure our Research Informs, and is Informed by, Stakeholders and Beneficiaries**

To enrich our research environment and reinforce our impact, we have accelerated actions to become an advanced, impact-literate and enabling community, so that more colleagues can lead impactful research programmes addressing real world problems (as evidenced in our six impact case studies). Led by Prof Norman, our **Research Impact Strategy** focuses on the *why* (to make a positive and decisive difference to people, communities and organisations), *how* (processes by which impact is achieved), *who* (skills and people-based factors) and *what* (demonstratable benefits) of research impact. We are strongly committed to deepening research impact across the Unit, through working with strategic partners (e.g., **The Royal British Legion, UEFA, Public Health England, World Anti-Doping Agency, World Rugby, UK Sport**) to co-create and embed research, leading to impact. Our six impact case studies build on strong foundations and heritage in addressing the societal challenges of doping, obesity, inactivity, health and wellbeing, gender inequality, talent development, and coaching development and education.

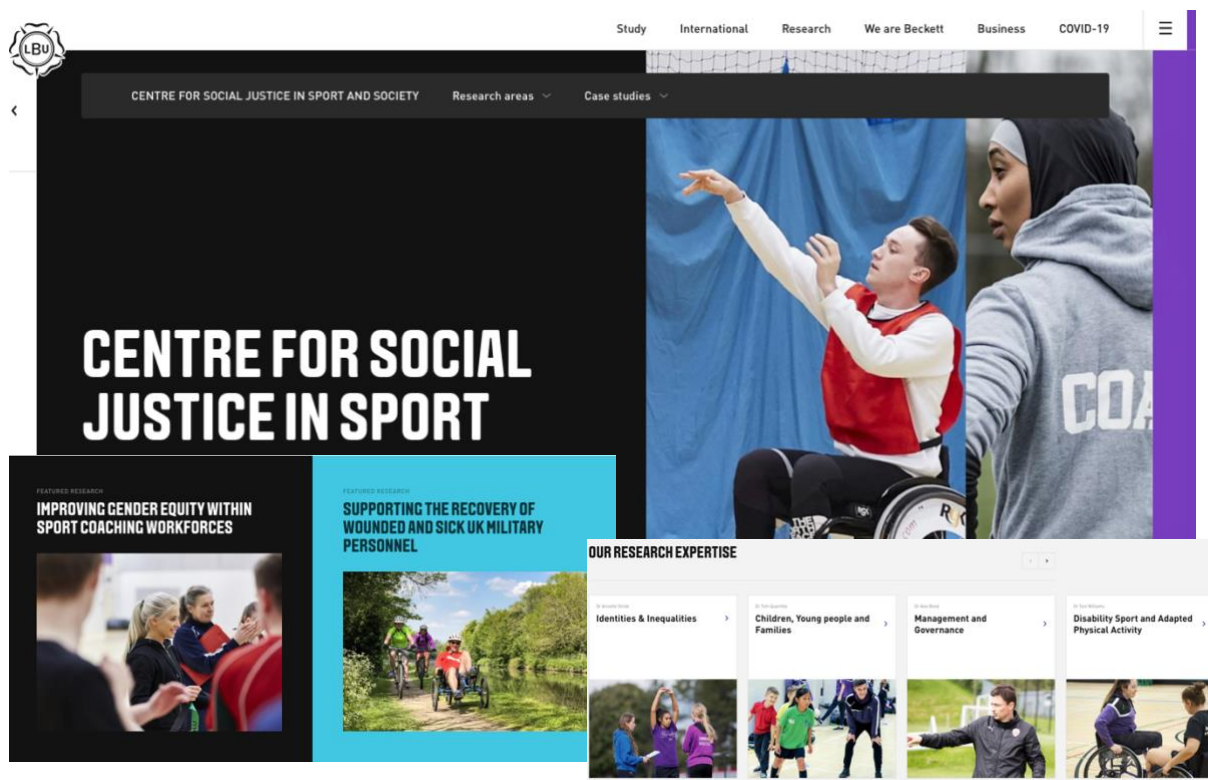
We secure and invest resources to 'bridge the gap' between research, policy and practice, as illustrated by our success in obtaining **EU Erasmus+ Sport** funding for eight Collaborative Partnership projects (e.g., **CoachForce21, iCoachKids, RESPECT**). Such projects involve our researchers working alongside EU researchers, policy-makers and practitioners to develop and transfer research informed practices in sport. The research-practice model established by Jones and Till has also informed the academic community (e.g., '*Accessing Off-field Brains in Sport; an Applied Research Model to Develop Practice*' published in 2018 in *British Journal of Sports Medicine*) and been implemented in various professional sports clubs (e.g., **Leeds Rhinos RLFC, Wasps, Bath Rugby**) and national governing bodies (e.g., **Rugby Football Union, Rugby Football League**). Furthermore, our approach to research impact has benefitted from the experience gained by undertaking five funded projects for the **Economic and Social Research Council** (ESRC), from exploratory projects on how to 'value' social science research to evaluations of two major investments (e.g., ESRC funded economics centres). This impact evaluation work was led by Prof Thomas and Visiting Prof Parsons.

**MoreLife**, a University spin out subsidiary company established to commercialise 20 years of obesity research conducted by academics in **AORC** and **CSS**, has grown in strength over this REF period; securing £40M+ of new contracts in Integrated Healthy Lifestyle Services. Prof Gately is the Chief Executive of **MoreLife** and the company interfaces between health care providers and universities to facilitate research collaboration and two-way knowledge exchange, structurally embedding a strong user-voice which adds value for all parties. **OneLife Suffolk** is a notable example of a partnership between LBU (as the research partner) and **MoreLife** (as the provider of integrated healthy lifestyle services), commissioned by **Suffolk County Council** for five years and recently extended by two years. The impact of work in Suffolk over the REF period was recognised by **MoreLife** winning 'The Primary Care Network, GP or Primary Care Provider of the year', in March 2021, for, "Providing life changing healthy lifestyle services in East Anglia to protect our NHS". Such contracts provide opportunities for PGRs and independent researchers to conduct high quality impactful research in real world settings. In turn, this supports the further development of **MoreLife** as a provider of evidence-based weight management services. A further example of facilitating user-voice, Prof Gately co-founded and is a director of **Obesity UK**, the leading charity dedicated to supporting people living with obesity (> 23,000 members). They have produced media guidelines for the responsible reporting of obesity, and a joint consensus statement on the importance of language in engagement between health-care professionals and people living with obesity.

### 1.5 Fostering an Open Research Culture

Aligned with our impact ethos, we have developed new, open mechanisms to share our research. We have proactively utilised the University's institutional repository and engaged with the open access agenda prior to the introduction of the, then, HEFCE OA policy in 2016. Nearly 70% of our out-of-scope journal articles have been deposited in the repository. The Unit also has the highest number of in-scope gold OA articles within the University (despite budget constraints: the institution receives no UKRI block grant or COAF grant for APCs). As the University deploys its institutional data research repository, we are working towards making our data openly available according to the FAIR principles. Our strong working relationship with Library, Learning and Innovation colleagues will continue to facilitate this process.

CSS deliver the **carnegieXchange** and **ETHM** host theme-led seminars, open to all staff, students and the wider community. These programmes bring together internal and external speakers from academia, industry, policy and community organisations to stimulate collaboration and co-production. Our match-funded PhD and Post-Doctoral Research Fellowship programme supports new strategic partnerships with industry (e.g., **English Institute of Sport, The Royal British Legion, the FA, Suffolk County Council, Institute of Travel and Tourism**) and create direct pathways to share our research and impact directly on policy and practice. Our Research Centre websites also help widen the reach and accessibility of our research (see images below from the **Centre for Social Justice in Sport and Society**, as an example).



Our **EU Erasmus+ Sport Collaborative Partnership** projects (e.g., **iCoachKids, RESPECT**) also evidence the utility of our open, embedded and participatory approach. All the associated research and project outputs are freely available on open knowledge exchange platforms (e.g., [www.icoachkids.eu/](http://www.icoachkids.eu/) and [www.cleansportalliance.org](http://www.cleansportalliance.org)). Research outputs are shared as pre-prints and findings and implications are synthesised and shared via video outputs (housed on YouTube Channels). **iCoachKids** is now present across 5 continents and engaging 100,000 online users.

### 1.6 Building for Future Success

We are proud of our research achievements and beyond REF 2021 we remain committed to delivering a highly integrated and interdisciplinary research environment cementing our real world applied focus. In July 2021, we will adopt a new **University Strategic Plan** which will consolidate research activity around areas of demonstrable strength and significance. Research will continue to be an integral part of **CSS** and **ETHM**, as we sustain our involvement in, and leadership of, novel and rigorous applied and impactful research. Each Research Centre, Theme and Subject Group will continue to have area-specific strategic objectives as well as building on existing processes and achievements. Schools will further accelerate the integration of research, teaching and knowledge exchange in all subjects, so research informs teaching/knowledge exchange and vice versa. To illustrate, Unit actions will include:

- *Impacting* local, national and international policies, practices and provisions to make a positive and decisive difference to people, communities and organisations.
- *Sustaining* the synergies between existing Research Centres and investment in people; enabling all staff to move towards research independence and deliver impactful research.
- *Strengthening* thematic areas, defined by a critical mass of researchers, sustained outputs/income generation and collaborative partnerships.
- *Involving* research users and beneficiaries in our research programmes, ensuring a strong user voice in all that we do.
- *Scaling* our collaborative and interdisciplinary multi-centre research programmes through grant capture to address some of society's biggest challenges (e.g., obesity, inequalities).
- *Addressing Covid-19* impacts as they will influence our research agenda through changes in socio-economic behaviour, the climate crisis (in relation to tourism) and potentially technological advancements (which may impact on integrated health services, sports performance and forms of participation in physical activity, non-competitive sport and in tourism).

## 2. People

### 2.1 Equality and Diversity

LBU is committed to creating a positive working environment for all employees. To ensure we continue to deliver high quality, impactful research that contributes to social change, we strive to provide a supportive, inclusive and positive environment in which to work. Underpinning this is a sense of shared values and behaviours, united by a common purpose: *to use our knowledge and resources to make a positive and decisive difference to people, organisations and communities.*

Unit processes are underpinned by principles of equality, diversity, and social justice. Our success rests on drawing from the broadest population of researchers to conduct research that makes a compelling contribution to society. Indeed, through our **Centre for Social Justice in Sport and Society** we lead research that identifies the root causes of injustices in sport with the purpose of driving social change. Creating a diverse workforce and an inclusive working environment is critical to our continued success. Our equality impact assessment of academic staff returned in this Unit did not identify any issues regarding representation across the protected characteristics compared to overall staff profile in the Schools, or institution as a whole. For example, our submission population comprises 39.5% women (n=30), which is proportionate to the population of women in **CSS** and **ETHM**. The selection of outputs was also proportionate to the submission population and in line with our **REF2021 Code of Practice**.

Over the REF period the number of women in senior leadership roles has quadrupled within the Unit (from 1 to 4). Backhouse was appointed as Director of Research, Norman appointed as the Director of the **Centre for Social Justice in Sport and Society** and **Unit Impact Coordinator**, while Dashper and Fitzgerald were appointed as **Directors of Postgraduate Research** in **ETHM** and **CSS**, respectively.

Diversity and inclusion are ongoing priorities and we remain committed to ensuring more staff are recruited and progressed from other underrepresented groups, including people from Black or Minoritised Ethnic groups and/or those who identify as having a disability. Therefore, we will be running consultations with existing staff as to how they experience inclusion within our workplace to understand any areas that will help us develop further update our Schools' strategies. This is part of our commitment to existing staff. Alongside this, we will be actively changing how we recruit to staff vacancies; our recruitment will be more inclusive and representative to make our workplace attractive to new and diverse staff. As an anchor institution, we are also committed to raising our regional visibility to be the employer of choice for a greater diversity of communities.

We are maximising the benefits of our **Flexible Working Policy and Procedure** for both the University and individuals, including the location, pattern and hours of work. Colleagues and managers are encouraged to informally discuss and agree flexible working requests, and most flexible working requests are resolved through informal discussion. The Unit is family-friendly and supportive of flexible working to suit individuals, taking into account their caring responsibilities (including transitions to and from parental/maternity/adoption leave). For example, by working flexibly around work commitments (e.g., meeting times), sharing of roles and responsibilities, and providing equitable research and development opportunities across the Unit.

Staff have access to either formal or informal career mentoring (e.g., via the **Carnegie Research Mentoring** programme or through Research Centres) with one or more experienced researchers within the University. We support the individualised career progression of our colleagues through one-to-one discussions with experienced researchers, research development training opportunities (e.g., research cafes and theme-team support sessions), wider School and University training programmes, and providing collaborative, externally funded research opportunities. This person-centred approach extends to our PGR students as we seek to ensure they feel connected and a sense of belonging to our Research Centres, Schools and Unit through meet and greet sessions, regular catch-ups, and opportunities to share their research and get involved in staff research initiatives and projects.

We take active leadership within the Unit to celebrate international days of difference, including International Day of People with Disabilities and International Women's Day and global issues such as the Black Lives Matter campaign. We raise awareness of difference through our research, particularly through the work conducted within our **Centre for Social Justice in Sport and Society**.

Our recruitment processes and practices adhere to HR guidelines concerning equality, diversity and inclusion. We are **Disability Positive** employers, hold **Bronze Institutional Athena Swan** accreditation (in the process of applying for Silver), have received **Stonewall Top 100** employer status, and are members of the pilot group of universities for the **Race Equality Charter Mark**. Our University continues to provide a range of equality and diversity development sessions – which include contributions from our Unit. For example, Trans Awareness training and a new 'Cultural Awareness' session. Our active **Equality Forums** (Race and Equality, Disability Action Group, Gender, Faith and Belief, Rainbow Rose) facilitate activities including annual race lectures,



Gender Research Conference, participation in Leeds Pride and events supporting Disability, LGBT and Women's History Months. Our equality work has been recognised with a **VERCIDA** award in 2018 (Top 10 of the UK's most LGBT-inclusive employers), and singled out as one of only 11 HEIs with a consistently gender balanced Board in the **Women Count, Leaders in Education Report** (2018). In relation to the Gender Pay Gap, we have reported improvements in our mean, median and bonus pay gap (e.g., the mean gender pay gap was 9.2% in 2019 which is significantly below the sector mean of 16.1%).

## 2.2. Research Governance and Integrity

The **University Research and Enterprise Committee** provides the governance for research, Chaired by the DVC (Research and Enterprise). Directors of Research are ex-officio members, as is the Director of Research and Enterprise. It is a sub-committee of **Academic Board** and the following sub-committees have devolved responsibilities:

- **Research Degrees Sub-Committee** (RDSC) overseeing PGR matters.
- **Research Ethics Sub-Committee** (RESC) overseeing research ethics (including annual audits to provide assurance of compliance by staff and students).
- **REF Strategy Panel** provides oversight of our submission as stated in **REF2021 Code of Practice**.

Research integrity is upheld by all members of the Unit, who assume personal and collective responsibility for their actions. All research projects are subject to ethical scrutiny. **Local Research Ethics Co-ordinators** manage most cases and report to RESC annually. An online system provides auditable ethics assurance. Within **CSS**, a **Research Support Coordinator** (1.0FTE) provides dedicated research support to staff and students.

## 2.3 Staffing Strategy and Staff Development

Our **LBU Strategic Planning Framework (2016-2021)** prioritises being a 'Community of Great People' because our people are key to our success. Consequently, we strive to provide a positive, supportive and inclusive working environment for staff and students. To support this aim, the University implemented a new **People Strategy 2016-2021** with a research-specific objective of "*leading research and academic enterprise by attracting, retaining, and growing great people to help us deliver our strategy*". Actions undertaken to achieve this objective are illustrated in this section. Further, we have successfully retained the **European Commission HR Excellence in Research Award** (first awarded in 2015), in recognition of our continued commitment to the career development and management of research staff through the seven principles of the **UK Concordat to Support the Career Development of Researchers**.

What follows illustrates some of the actions that support our aim of attracting, retaining and growing great people over the REF period. The future vitality of the Unit is enhanced by our age profile (the mean age in the Unit is 43 years) and staff and doctoral student retention.

### ***i) Attracting and Promoting Established Leaders (Promotions and Senior Appointments)***

- To ensure research leadership across the Unit, we recruited eight 'external' **Professors** (3 women): Beggs (2015-2019, 0.4 FTE), Buda (2017-2020, 1.0 FTE), Cooke (2020-, 1.0 FTE), Cooper (2017-, 0.2 FTE), Pritchard (2020-, 0.2 FTE), Schilders (2015-, 0.2 FTE), Seetaram (2020-, 1.0 FTE) and Woods (2015-, 0.2 FTE).
- We continued investment in future research leaders in thematic areas of strength and critical mass, making internal promotions to **Professor** (Backhouse, Fitzgerald, Jones, Norman, O'Hara, Till, Wood), **Reader** (Dashper, Fletcher, Griffiths, Ispoglou, Lara-Bercial, North, Quarmby, Watson) and **Senior Research Fellow** (Kay, Erickson, Roe, Wainwright).

- We established powerful activating exchanges and governance procedures to stimulate links with business and industry, as well as public and third sector bodies. For example, we have invested in doctoral students and **Post-Doctoral Research Fellows**, supported by established research leaders (e.g., Cooke, Gately, Griffiths, Sparkes) to ensure we are delivering evidence-informed healthy lifestyle behavioural interventions through our successful spin out company, **MoreLife**.

### ***ii) Recruiting and Developing Future Leaders (Early and Mid-Career Researchers)***

- We continued to support our doctoral students transition to research independence and significant responsibility for research, by providing access to resources and mentorship. Eleven of the staff in this submission completed their PhDs with us over the REF2021 period.
- We supported 16 staff with semester-long research sabbaticals (**REF2021 Fellowships**; investing £400k of our QR Income to support Alder, Campbell, Daly-Smith, Dashper, Didymus, Emmonds, Griffiths, Hanley, Ispoglou, Kaiseler, Patterson, Price, Quarmby, Rongen, Stanger, T.Williams) to develop independent research programmes. Five Fellowship recipients have already secured subsequent promotion to Reader (Internal: Griffiths, Dashper, Quarmby, Ispoglou; External: Daly-Smith, University of Bradford), demonstrating how this mechanism for developing research excellence has accelerated career progression.
- We secured a prestigious **EU Marie Curie Individual Fellowship**, enabling Dr Pang to join us as a Senior Research Fellow for three years (Rethinking the Health Experience and Active Lifestyles of Chinese Students, €180,000 funding).
- We have successfully retained our doctoral students as **Post-Doctoral Research Fellows** using external funding, recruiting 12 Fellows over the REF period. The largest appointment clusters have been to research programmes in the **Carnegie Applied Rugby Research Centre** (n = 6) and **Applied Obesity Research Centre** (n=3).
- Doctoral students awarded their PhDs over the REF period have been successful in securing postdoctoral and academic positions within **CSS** (n=21), other HEIs in the UK (e.g., at Bristol, Cardiff Metropolitan, Coventry, Durham, Exeter, Newcastle, Northumbria and Sheffield Hallam) and overseas (e.g., University of Canterbury, New Zealand; Australian Catholic University), as well as in industry (e.g., USA Cycling, English Institute of Sport, UK Coaching).

### ***iii) Providing Career Development and Research Training***

- We sustained investment in staff development, supporting part-time doctorate fees, conference attendance and continuous professional development over the review period (e.g., £252K+ invested through 245 **Conference Awards** to enable colleagues to attend established national and international conferences to present their research, and build their networks).
- Awarded 85 strategic **Research Development Grants** (e.g., 'First Grants', 'Impact Facilitation', 'Network Grants'; £283K investment).
- **Human Resources**, the **Graduate School**, and representatives of the Research community coordinated our implementation of the **Concordat** to map our support activities for the career development of researchers at all stages of their research journey from postgraduate researchers to professors. University-wide staff development workshops are open to all staff and PG research award students.
- We ran training courses on research impact, led by Prof Mark Reed from **FastTrack Impact**.
- **Carnegie Research Mentoring** (CaRM) provided a formal mentoring mechanism. CaRM is part of workload allocation for mentors and mentees. Extensive informal mentoring between colleagues, reflects the positive culture of the research environment.
- We delivered an annual programme of monthly research seminars by staff and external speakers, via our **carnegieXchange & ETHM** speaker series. This series has included annual

public lectures that bring high-profile international speakers to LBU (e.g., Profs Blair; Baker, Chambers and Eisenmann).

- We offered weekly supervised ***Shut up and Write*** sessions in timetabled spaces (moved online due to Covid-19), to provide focused time to write, and think.
- Academic staff were supported to undertake an annual **Performance Development Review** with their line manager to review research progress, identify and agree objectives and individual staff development needs.

#### ***iv) Enriching our Research Environment Through Visiting Professorships and Fellowships***

Over the REF period, we adopted a more strategic approach to appointing **Visiting Professors** and **Fellows** to our Unit, based on expertise and strategic priorities. Consequently, our research environment has been enriched by 29 visiting appointments. For example, Prof Carrington (USA) contributes to our research on race and racism in sport, Prof Coalter (UK) supports our research on sport for development, Prof Eisenmann (USA) provides expertise in paediatric exercise science and youth sport, Prof Gilthorpe (UK) contributes his statistical epidemiological expertise to our applied obesity work, Profs London and Harris (UK) support our research in musculoskeletal and orthopaedic sport medicine, Profs Mellor and Boos (UK) contribute to our high-altitude expedition research, Prof Phillips (Canada) offers expertise on sarcopenia and ageing, and Prof ShiNa Li (China) contributes to our work on the economics of tourism and events. Illustrating our Visiting Fellow contributions, Dr Hendricks (South Africa) contributes expertise on tackling to our applied rugby research, and Dr Erickson (USA) contributes to our research on doping prevention. Our research environment is further enriched by our **Emeritus Professors** (Scraton, Long, Flintoff, Hylton, King, Beggs).

## **2.4 Research Students**

### ***i) Sustained and Strategic Investment in our Research Student Community***

We invested £4.5M in our PGR community (and developing the next generation of leaders in the field) through strategic recruitment and integration within areas of thematic strength and critical mass. Our investment focused on match-funding research with local, national and international partners. Since 2014 we have delivered on our strategic aims and achievements and developments include:

- Awarded 91 doctoral degrees, almost double the 47 awarded in REF2014.
- Registered 180 students on doctoral degree programmes (73 FT, 107 PT), including 23 professional doctorates; an increase of 329% since REF2014 (n=42).
- Invested in 75 competitively awarded PhD studentships (69 PhD, 6 MRes; £1.5m investment), by combining School and externally funded studentships (e.g., with **Public Health England, The English Institute of Sport, British Triathlon, UK Coaching, The Rugby Football Union, Leeds United FC, Leeds Rhinos Rugby League Club, Suffolk County Council, Huddersfield Town FC, The Football Association**, and **Institute of Travel and Tourism**).
- Established two international PhD programmes with the **University of Copenhagen** (spinal cord injury and adapted physical activity; Sparkes, T.Williams) and **UMIT** in Austria (doping prevention; Patterson).
- Following the first appointment of 10 **Graduate Teaching Assistants** (GTAs) in 2013/14, 28 School-funded GTAs were appointed. This investment of £3M over the REF period, helped enrich our Research Centres and Research Themes, and supported the next generation of academics (e.g., 29/38 GTAs have secured academic positions at HEIs, 10 within **CSS**), via this career development pathway.

- Thirty-five current staff are being financially supported to study either a PhD or EdD. In addition to covering postgraduate research fees, staff are deployed to undertake their doctoral qualifications within our workload model. Over the REF2021 period, 27 staff members have completed their School-funded PhDs, with eleven already achieving independent researcher status (and thus having significant responsibility for research), and twelve are moving towards independent researcher status. This investment in our staff, sustained over successive REF periods, evidences our commitment to growing and sustaining our own community of independent researchers who can lead programmes of research that align with our thematic areas of research strength, and impact pathways.

#### ***ii) Supporting Research Students Progress and Development***

The **Graduate School** oversees all aspects of our doctoral training and research staff development (and staff from the Unit contribute to this programme), integrating institution-wide PGR support with research career development. Tailored professional development workshops are based on **Vitae's Research Development Framework** and delivered through the research training programme for research students. Importantly, Schools and Research Centres provide the primary academic home for our integrated research community and provide tailored professional, career and personal development for individual PGR students.

We have well established mechanisms to support students, monitor progress, and promote on-time completions. Four to six months after registration, students prepare a report that is reviewed by a panel made up of an independent chair and a senior academic not connected with the project and the supervisory team (**Confirmation of Registration**). The panel can confirm the target award, recommend an alternative target award (e.g., rather than register for a PhD the student shifts to an MPhil), recommend that the student either addresses specific areas of weakness and resubmits their report, or withdraws from the University. At the end of each year of their doctoral research, students are required to present their work to a progress panel (**Annual Progression**) consisting of supervisors, an independent chair, and another experienced researcher from within the School. These meetings provide invaluable, constructive feedback and advice.

Students experiencing difficulties at any stage in the doctoral process may apply to the **University Research Degrees Sub Committee (RDSC)** (e.g., for an extension or temporary suspension). Locally, PGRs are encouraged to quickly highlight any issues affecting their progress with supervisors (who formally record progress, issues and agreed objectives at supervision meetings), the **Director of PGR** or the **Director of Research**, to provide appropriate guidance. Over the REF period the University invested in and implemented a comprehensive postgraduate research student management platform (*PhD Manager* by Haplo) to ensure that all our PGR information is held in one place, streamlining the process of supervision meetings, progression monitoring, examinations management, and reporting.

A tailored **Research Training Programme (RTP)**, designed with supervisors, provides PGR students with the skills and competences needed to undertake research and to work towards the successful completion and defence of a written thesis and/or disciplinary equivalent. Our PGR students must complete this programme prior to thesis submission. This approach reflects national good practice guidelines and specifically relates to QAA guidelines and **Vitae's Researcher Development Framework**. Methodological innovation has added vibrancy to the intellectual climate surrounding our research students. For example, our annual research methods programmes develop students understanding of qualitative (led by Sparkes) and quantitative (led

## Unit-level environment template (REF5b)

by Griffiths and Beggs) research methodologies and methods, and have been instrumental in expanding research capabilities and innovations.

Students are invited to present their work within informal, supportive contexts (e.g., at our Annual PhD festival, internal seminars, Research Centre/Theme meetings). We also encourage doctoral students to submit and publish journal articles with supervisors during their registration. We have an excellent track record of students exiting their PhD studies with at least one journal article with supervisors. As a key indicator of research quality, four of our Tourism PhD students won national awards from subject associations and professional associations, and international awards have also been secured across the Unit (e.g., Young Investigator Award at the annual conference of the European College of Sport Sciences). Recognising the importance of connecting with the wider community, all PGR students are financially supported to attend up to three external workshops, seminars, courses or conferences throughout their period of study. Students can augment these funds to attend at least one international conference to present their work during their period of study with us. An annual budget supports research-related costs (e.g., equipment and travel) for every PGR bursary student and GTA.

The most recent (2019) **Postgraduate Research Experience Survey** (PRES) indicated high levels of satisfaction with supervision and support within our Unit. For example, within **CSS**, scores of 90%+ were noted for satisfaction with supervision, research skills and professional development (e.g., 96% agreed their supervisor/s provide feedback that helps them direct their research activities and have the skills and subject knowledge required to support their research). Covid-19 affected our PGR community and the Unit is committed to financially supporting students requiring extensions to their registration and studentships due to the pandemic.

### 3. Income, Infrastructure and Facilities

#### 3.1 Infrastructure and Facilities

Over the REF period, the University has made substantial investments in our infrastructure and facilities to further enhance our capacity to deliver high-quality research and impact activities. This includes investment in a **£45M state-of-the-art building** that co-locates our highly specialist research, teaching and knowledge exchange spaces. Opened in May 2020, the building is a physical manifestation of how we work *with* our community, bringing the people, organisations and communities we serve into the 8,500m<sup>2</sup> hub. Many elements of the building were implemented in consultation with our stakeholders, such as the 400m<sup>2</sup> strength and conditioning suite and performance training and analysis laboratories (**Leeds United FC, Leeds Rhinos RLFC, Yorkshire Carnegie RUFC**), the exercise and health studio (e.g., **Leeds Teaching Hospital Trust**), the 60m indoor athletics track (**British and England Athletics**) and the two 40m<sup>2</sup> environmental chambers (**Defence Medical Services**). The environmental chambers can simulate altitudes up to 8849m, temperatures from -30 to 50 degree Celsius and relative humidity from 15 to 95% (capable of simulating environmental conditions across the world).

The investment of £3.5M in equipment within the new build includes a custom-built 180° Igloo creating an immersive, state-of-the-art simulation and visualisation facility, a h/p cosmos Gaitway 3D Instrumented treadmill, h/p cosmos Saturn oversize treadmill which accommodates running, cycling and wheelchair use, Vyair vintus one pulmonary function system, Qualisys Oqus 7+ cameras, fixed and portable Kistler force plates, Randox RX Daytona clinical chemistry analyser and a high-performance liquid chromatography mass spectrometry instrument. This investment

adds to pre-existing equipment, including dual x-ray absorptiometry, anti-gravity treadmill and immunofluorescence microscope.



*New £45M state-of-the-art building for the Carnegie School of Sport (Opened May 2020)*

In equipping the new build spaces, we established research partnerships with industry leaders to ensure the sustainability of high-quality research and impact activities. For example, **Catapult** provided the latest software for our performance analysis labs and they will host their CPD and industry-training events in our new facility. **Cranlea Human Performance Ltd** and **Perform Better** are each funding four co-created MRes bursaries to advance scientific discovery in areas relevant to their industry.

Through a partnership with **ETHM**, **Jet2.com** have funded improvements to the estate by creating a Jet2Suite. This incorporates a research ideas lab, connecting researchers and PGRs in Responsible Tourism with direct access to senior staff in the company.

### **3.2 Six-Fold Increase in Research Funding**

During the REF period our total external research income is just over £7M, compared with £1.2M in our REF 2014 submission. The growth, as well as the diversity of our funding base, is important in securing the breadth, depth and sustainability of research across the Unit. The three major sources have been UK based charities (£1.5M), UK central government (£1.78M) and UK industry, commerce and public corporations (£1.6M). Longer-term funding from **Public Health England** and **Suffolk County Council** supports our whole system obesity work.

Over the next REF period, we will continue to support staff to secure further research funding from a wider range of sources. In particular, we will target large collaborative funding opportunities (e.g., Research Councils) to address some of societies biggest challenges; obesity, ageing, physical inactivity and social justice in sport and society. Early indications are positive for this strategic focus, given the recent award of £1.2M from **National Institute for Health Research** to evaluate the new **NHS Low Calorie Diet Programme**, aimed at targeting support to adults living with obesity and type 2 diabetes.

### 3.3 Strategies for Generating Research Income

Support for research and impact in general, and for grant applications in particular, has become more deliberate and systemised during this REF period. QR funding was allocated as earned by the REF Units, and a new financial model, introduced in 2016, ensures Schools retain the majority of the research and knowledge exchange income they generate (all overheads minus a small central levy). This incentivises the acquisition of non-student income and is an example of how the University and the Unit continually seek to improve our funding processes to further enhance the vibrancy and sustainability of our research environment. Further examples are illustrated below.

#### *i) Increased Support from the University Research and Enterprise Office*

The **University Research and Enterprise Office (UREO)** has become more proactive in supporting research bids, appointing dedicated **Research Funding Advisors** and providing specialist funder insights and experience (e.g., institutional and sector wide success rates, financial rules, eligibility and participation criteria at the point of research idea / conception). The University also established a supportive Peer Review process for grant proposals in 2015 to provide encouragement and guidance for staff in applying for external funding. The process also guarantees feedback from at least two experienced colleagues with expertise in the field and/or experience with the funding organisation. Overall, this helps with quality control and grant writing skill development.

Further direct support from the University for research includes:

- Implementation of the **Research and Enterprise Management System (REMS)** in 2014 ensuring better costing and data management of all bids across the Unit.
- Dedicated funding available to support preparing bids (£20K per year).
- Establishment of the **Post Award Research Team** within the wider **UREO**, supporting colleagues at the point of grants / projects awarded.
- **UREO** also offered competitive **QR Funded Research Awards** between 2015-17. Targeting research career stage, awards included Early Career (up to £5K), Mid-Career (up to £15K) and LBU Research Cluster awards (Up to £30K). Unit researchers were awarded over 100K.

#### *ii) Increased Unit Investment to Develop Research Capability, Income Generation and Impact*

Our allocation of **Research Development Funding** totalled nearly £1M over the REF period, including awarding semester-long sabbaticals in the form of **REF2021 Research Fellowships** (£400K). This investment afforded 16 early career researchers the time and resources to develop independent programmes of research. For example, in 2015, Griffiths responded to a call from **PHE** regarding evidenced based policy around obesity (a focus of our Obesity Impact Case Study). She used her sabbatical to build research networks (e.g., via the **ESRC Obesity Network**, in which she was a principal investigator), write high quality research papers (since published in the International Journal of Obesity Special Issue on Big Data in Obesity Research) and firmly establish the collaboration with Prof Mark Gilthorpe (who is now a **Visiting Professor** in **CSS**) and other colleagues at the University of **Leeds Institute for Data Analytics (LIDA)**. The Fellowship helped Griffiths build the capability and confidence to pursue Research Council funding which compliments and extends the **PHE Whole Systems Obesity Toolkit** (developed by LBU) by evaluating, for the first time, the application of systems theory (i.e., systems thinking and complexity science) as a framework to address obesity.

Alongside Fellowships, we also awarded 85 **Research Development Grants** (£283K) to help generate research income. For example, Emmonds was awarded a First Grant in 2015 to examine the physiological and movement demands of elite female soccer players on match performance and physical characteristics. Since then, she has developed numerous research partnerships, including with **The Football Association** (securing funding for three PhD Studentships), where the programme of research is impacting practice and innovation across the Girls and Women's England Talent Pathway.

LBU has invested significantly in developing the capacity and capability around data science within sport, as well as obesity. Prof Beggs was recruited in 2015 to develop the expertise within data management and analytics, and accelerate innovations in sports data research (including novel analysis techniques applied to microtechnology sports data). At the same time, **CSS** further invested in four joint-funded data science PhD Studentships, in collaboration with the **School of Built Environment, Engineering & Computing**. By building a critical mass of researchers and developing expertise within data science, we have secured research investment to deliver league-wide sports data projects. For example, Jones leads the **Super League (Rugby Football League)** and **Catapult** project, managing the league-wide microtechnology data, quantifying the match characteristics of rugby league. We have also developed an accessible data visualisation tool to better communicate the research findings to a wide range of beneficiaries as part of a league-wide fitness testing project (involving the **RFL Academy, Women's Super League** and **RFU Academy** players). Our long-standing commitment to delivering impactful research in rugby is evident in our Rugby Impact Case Study.

### *iii) Organisational Infrastructure - University-Designated Research Centres*

Our research infrastructure is also developed and sustained in Research Centres through Research Themes. As outlined in Section 1.3, we launched two new University-Designated Research Centres over the REF period – the **Applied Obesity Research Centre (AORC)**; led by Profs Gately, Cooke and Ells) and the **Carnegie Applied Rugby Research Centre (CARR)**; led by Profs Jones and Till). Including **AORC** and **CARR**, we now have six purpose-led Research Centres: **Centre for Social Justice in Sport and Society** (the first of its kind in the UK, led by Prof Norman), **Centre for Sport Coaching** (also unique in the UK and internationally, led by Dr North), **Centre for Human Performance** (led by Prof O'Hara), and the **Centre for Active Lifestyles** (led by Prof McKenna).

Our research infrastructure extends beyond the University campus, as evidenced by our long-term involvement in the **Battle Back Centre** at the **National Sports Centre at Lilleshall**. The 10-year contract (~£10M) with **The Royal British Legion** and the **Ministry of Defence (MoD)** at The Battle Back Centre draws together researchers from across our Research Centres (e.g., McKenna, Cooke, Kay) with expert coaches and project managers from **Carnegie Great Outdoors** (housed within the **CSS**). Our established research infrastructure, with embedded researchers, secures the continued impact of our research-led adapted sport, and adventurous training residential course on the recovery of military wounded, injured and sick (WIS) serving personnel. Working with the **Scottish Universities Environmental Research Centre** allows us to embed gold standard stable mass isotope techniques into cross-centre research on exercise metabolism and energy expenditure (e.g., O'Hara, Jones, Ispoglou).

### **3.4 Libraries and Learning Innovation**

Library and Learning Innovation (LLI) plays a key role in the staff and student experience at the University, providing 24/7 access to physical (over 380K books) and online (150K journal titles)



resources supporting the research, teaching and learning needs of our community. Academic librarians ensure collections meet our research needs and can be used by our staff and research students. Academics are supported by experienced research support staff in LLI (2.5 FTE) and our research is managed through two complementary systems, Symplectic and EPrints. Outputs are made available as Open Access to comply with publisher, REF and funder requirements. Information from Symplectic also feeds through to the public-facing staff profiles on our web pages.

Academic and support staff within the Unit have been proactive in working with colleagues in LLI and developing the use of Symplectic and the institutional repository, including piloting the use of modules that allow reporting on research environment activities. LLI research support staff, and colleagues within Research and Enterprise, provide training on the development and use of these modules to ensure consistent documentation of research environment activity.

#### 4. Collaboration and Contribution to the Research Base, Economy and Society

Ensuring that our research informs, and is informed by, our research stakeholders and beneficiaries is one of our four strategic research objectives. This position aligns directly with our University mission to '*use our knowledge and resources to make a positive and decisive difference to people, communities and organisations*'. Our **Research Impact Strategy** helped us adopt a more proactive approach to maximising the benefits of our research for society and the communities we serve.

A distinctive feature of our Unit, and its strategic direction, is the influence of collaboration with national and international agencies on our environment. Collaborative partnerships provide crucial opportunities for staff and PGR students to work in policy and practice contexts; undertaking applied and embedded research to understand the problems and issues as they are faced on the ground. Many of the challenges our researchers examine are underpinned by complex behaviours (e.g., obesity, physical inactivity, inequality, doping, coaching) and to address them requires a connected researcher-practitioner-beneficiary-policymaker community, that links a range of methodologies and disciplines, deploying them for specific and well-focused investigations.

The Unit has strategically supported the development of new research-policy-practice networks and interdisciplinary collaborations (e.g., via match-funded PhD studentships, match-funded post-doctoral fellowships, internal synergy and network grant funding), and colleagues have secured competitive funding (e.g., **EU Erasmus+ Sport Collaborative Partnerships**). Given the number of emerging researchers supported by the Unit, our collaborations thrive by intentionally combining their innovation with experienced cross-Centre and Subject mentoring, by experienced researchers. Relevant examples of our collaborations and contributions are highlighted in the following sub-sections.

##### 4.1 Collaborations, Networks and Partnerships

**i) Embedded-Researcher Partnerships:** Aligned with our commitment to deliver on our role as a regional anchor institution, colleagues within the Unit have partnered with multiple professional sports clubs, national governing bodies, international federations and Schools to integrate research and practice. In the multidisciplinary **Carnegie Applied Rugby Research Centre (CARR)**, staff and students are embedded within sports organisations to positively impact the athlete, coach and wider community. The **CARR** model involves numerous researchers, research students, practitioners and senior management in collaboratively developing research, policy and practice. To foster these strategic partnerships, and to create direct pathways to impact, **CSS** support joint-funded doctoral and post-doctoral positions between the professional sporting

organisations and **CSS**. As partnerships mature, the professional sporting organisation have begun to fully fund such positions. This partnership model is overseen by experienced academic staff (Jones, Till) who also work as practitioners within the sporting organisations. Key to the success of the model is the strategic investment by the senior management at both the university (e.g., Dean, Director of Research) and sporting organisation (e.g., CEO, Director of Rugby), who are all deeply committed to the value of translational research.

Our embedded partnership model in rugby clubs (e.g., **Bath Rugby, England Rugby League, England Rugby Union, Leeds Rhinos Rugby League, Wasps Rugby Union**) has now extended to professional football clubs (e.g., **Leeds United and Huddersfield Town**), Super League netball clubs (e.g., **Leeds Rhinos Netball**) and tourism organisations (e.g., the **Institute of Travel and Tourism, Jet2.Com**). This embedded-researcher approach is also a feature of the **Centre for Sport Coaching**, where the concepts, frameworks and ideas developed through a continuous process of applied research now forms the basis of the **Chartered Institute for the Management of Sport and Physical Activity (CIMSPA)** Professional Standards for Coaching in High Performance Sport (launched in 2019).

**ii) International Multi-Agency Collaborations:** We lead many international collaborations, including complex international, multi-agency projects involving academic institutions, policy-makers and practitioners. These collaborations seek to bridge the gap between research, policy and practice. Example collaborations over the REF period include working with:

- Over 30 organisations (including **Nike, UEFA, World Rugby**, and the **Special Olympics**) and beneficiaries through **iCoachKids** (3-year **EU Erasmus+ Sport Collaborative Partnership** project, led by Dr Lara-Bercial) to support the development of a Specialist Children and Youth Coaching Workforce across the EU. **iCoachKids** has become a global leader in youth sport, with its website ([www.icoachkids.eu/](http://www.icoachkids.eu/) c.100,000 users globally), massive open online courses (3,500 users), YouTube channel (c. 100,000 views across 120+ videos).
- **ESRC Obesity Network** (PI: Griffiths) - brought together a cross-sector, cross-discipline community from the UK, US and Europe to use 'Big Data' to better understand and subsequently tackle obesity. The network published a series of seven papers in a Special Issue in the *International Journal of Obesity*.
- **International Association of Athletics Federations (IAAF)** – we undertook a complex and comprehensive biomechanical analysis at the 2017 **IAAF World Championship** and 2018 **World Indoor Championships**. At the 2018 Indoor event, data was recorded from 76 individual events, filming over 730 athletes with 49 high speed and HD cameras. This involved over 6500 thousand hours in planning, data collection and data analysis, resulting in the 38 individual reports published by the **IAAF** (research team included Hanley, Nicholson, Tucker).
- **International Council for Coaching Excellence (ICCE)** - hosted in the **CSS**, the **ICCE** guide sport coaching research, education and policy in 55 member countries.
- **Meeting Professionals International** (the world's largest professional association in the events sector, USA) - LBU provided a synthesis of international research on events tourism to the **Japanese Tourist Board** (Musgrave).
- Five European **National Anti-Doping Organisations** and two UK universities (University of Birmingham, Kingston University London) through **RESPECT** (*Research-Embedded Strategic Plan for Anti-Doping Education Clean Sport Alliance Initiative for Tackling Doping*) - led by Prof Backhouse, **RESPECT** is a 3-year **EU Erasmus+ Sport Collaborative Partnership** project bridging the gap between research, policy and practice to develop effective anti-doping education ([www.cleansportalliance.org](http://www.cleansportalliance.org)). Intellectual outputs from the project have already guided the **World Anti-Doping Agency's** Social Science Research Priorities.

- **Organisation for Economic Co-operation and Development** - providing expert review of the international digitalisation challenges in the tourism sector, focusing on the skills and work organisation implications for managers and employees (Choi, Visiting Prof Parsons).
- **UEFA** - to evaluate Football Coach Education across Europe. Led by North, the findings were used to change the **UEFA Coaching Convention** to a new version 3 in 2020 with a greater emphasis on reality-based learning, further education/CPD, and the training of coach developers. We were also commissioned by **UEFA** to conduct research to underpin the development of two new flagship, pan-European (55 nations) programmes (**Playmakers and Football in Schools**) (led by Lara-Bercial and Stride).
- **World Rugby** - multi-national Global Rugby Match Characteristics project (led by Jones), involving a collaboration with the **University of Cape Town** and **Rugby Unions in England, South Africa, USA, New Zealand, Portugal and Hong Kong**.

*iii) National Multi-Agency Collaborations:* We lead many national multi-agency collaborative research projects, particularly in obesity and physical activity, sports science and coaching.

Examples include:

- **Battle Back Centre, The Royal British Legion, The Ministry of Defence and Injured Players Association** - LBU research underpinned the decision of **The Royal British Legion** to invest £27M to fund the Battle Back recovery course, leading to the **British Army and Royal Air Force** mandating attendance of the Battle Back course for their wounded, injured and sick personnel. Beneficiaries of this collaboration now reach beyond serving personnel (e.g., in military veterans, junior soldiers and supporting spinal cord and brain injured rugby union players, their families and carers) (Cooke, Kaiseler, Kay, McKenna, T. Williams, Sparkes).
- **Become Charity** – research conducted for Become on ‘perceptions of care’, led to them being a strategic partner and involved in two successful **British Academy** Small Grants (Quarmby).
- **Catapult, Super League Europe and the Rugby Football League** - quantifying the demands of rugby league from all Super League teams, providing the first league-wide research project in any sport. This also links into our academy profiling project with **England Rugby League** (Jones, Till, Roe, Weaving).
- **Defence Medical Services** – joint research has led to a strategic partnership, investigating point of case assessments of exertional heat and altitude illness, to inform military best practice (O’Hara, Woods).
- **Doncaster Council and Sport England** - used the findings of a study on the social impact of **The Tour de Yorkshire** to develop a novel events strategy (McKenna, Ormerod).
- **English Institute of Sport** - invested in two match-funded PhDs to inform their policies and practices: 1) examining heat acclimation interventions for Olympic competitions in hot and humid environments (with **British Triathlon**, O’Hara, Wainwright) and 2) the behavioural science of nutritional adherence (Backhouse, Patterson).
- **Fast Forward 15** - Dashper led research and contributed to a mentoring programme designed to challenge barriers to female career advancement in the industry.
- **Leeds City Council** - developed its approach to problem gambling in the city based on collaborative research with **ETHM** (Kenyon, Ormerod, Visiting Prof Parsons).
- **Leeds Teaching Hospitals** – conducting research in collaboration with clinicians from **Leeds Teaching Hospitals** and the **University of Leeds** on the acceptability and feasibility of essential amino acid nutritional supplements (developed by Ispoglou, with patent pending) to manage sarcopenia, a highly prevalent syndrome within a variety of conditions and diseases and negatively influences clinical outcomes and quality of life, particularly in the elderly.
- **Public Health England and local authorities** - LBU produced a research-based guide and set of resources to support local authorities with implementing a whole system approach to

address obesity and promote a healthy weight (Cooke, Gately, Griffiths, Radley). This guide is now being translated into other languages for international implementation (e.g., Better Health Programme Mexico, led by the Foreign & Commonwealth Office).

- **Suffolk County Council** - established the **OneLife Suffolk Integrated Public Health Lifestyle Service** with a focus on areas of deprivation and reducing health inequalities by targeting vulnerable and at-risk groups working directly with local communities and beneficiaries to identify conditions for successful interventions and address specific challenges (Cooke, Gately, Griffiths). Patient and public involvement is a common feature in the design and evaluation of such work in healthy lifestyle interventions. Driving this collaboration is **MoreLife**, a highly successful subsidiary company of LBU, founded by Gately.
- **The Football Association (FA)** - researching 1) Experiences of women coaches' working in football to address issues of gender inequality in the game (Clarke, Didymus, Kaiseler, Norman), and 2) Match demands and characteristics of Girl's and Women's football to drive practice and innovation across the England Talent Pathway (3 PhD Studentships; Emmonds).
- **Yorkshire Sport Foundation** and **Public Health England** (Yorkshire and Humber) - in July 2019, the Creating Active Schools conference at LBU brought together the expertise of 50 regional, national and international stakeholders to integrate the many components of school-based physical activity. They included teachers and headteachers from across South Yorkshire and West Yorkshire and 18 UK and international experts in school-based physical activity from Universities This led to the first UK-based whole-school physical activity framework – the **Creating Active Schools Framework** (Archbold, McKenna, Quarmby).

*iv) National and International Expert Advisor Roles:* Members of the Unit serve widely as experts, illustrated by the following roles:

- Backhouse serves on the **World Anti-Doping Agency (WADA)** Social Science Expert Advisory Group (formally the Research Advisory panel), and was instrumental in restructuring the **WADA Grant Program** and developing WADA's first **Social Science Research Strategy** (2020-2024). LBU research underpinned this global strategy. Backhouse is also a member of the **English Institute of Sport (EIS)** Technical Steering Panel.
- Emmonds is a member of the **FA's** Scientific Advisory Board for Women's and Girl's Football.
- Gately is a member of the strategic council of 16 UK experts formed by the **All-Party Parliamentary Group on Obesity**, calling for the Government to take a new approach to tackling obesity through prevention and treatment; Gately co-founded and is a director of **Obesity UK**, the leading charity dedicated to supporting people living with obesity (> 23K members).
- Jones is Research lead at the **Rugby Football League**.
- Lara-Bercial is influencing policy across 27 **EU Member States** through his lead role in **European Commission** Human Resources Development in Sport Expert Group.
- Norman is lead advisor to **Sport England's** national taskforce on gender equality in sport coaching which is informing their new ten-year strategy (2021-2031), 'Uniting the Movement' which places tackling inequalities at the heart of **Sport England's** work.
- North is Chair of the **International Council for Coaching Excellence's** (ICCE) Research Committee.
- Price is **International Olympic Committee** Sub-Group Member (Respiratory Illness) and **European Respiratory Society** Taskforce Member (Exercise and Asthma Management); Price is Elected Board Member of the **European Academy of Allergy and Clinical Immunology (EAACI)** - Allergy, Asthma and Sports Working Group, EAACI Taskforce Group Chair (diagnosis and management of allergic and respiratory disease in sport) and EAACI Research and Outreach Committee Member.

- Pritchard is Special Advisor to the **Wales Tourism Alliance**, an umbrella representative organisation that communicates with the Welsh Government on behalf of the tourism businesses and trade bodies.
- Robinson is a Board member of the **Institute of Travel and Tourism & Tourism Management Institute**. **ETHM** members sit on the Boards of all relevant national subject associations (**Awards for Training & Higher Education (ATHE)**, **Association for Events Management Education (AEME)** and **Council for Hospitality Management Education (CHME)**).

#### 4.2 Contribution to Academic Disciplines and Learned Societies

Many of our staff are at the forefront of their disciplines and influence the directions they take. For example, our Unit is influential in promoting diverse research methodologies in Sport and Exercise Science, Leisure and Tourism (e.g., advancing qualitative methodologies Clarke, Douglas, Dashper, Fitzgerald, Quarmby, Sparkes, T.Williams). Impact on the discipline has been achieved in various ways, including influential books, and editing and publishing in high profile journals. For example, LBU's significant contribution to advancing the sociology of sport was acknowledged in the bibliometric study of Tian & Wise (2017; published in the *International Review for the Sociology of Sport*). Norman's contribution was specifically acknowledged. Importantly, the evidence we provide across the Unit illustrates the contribution of staff at all stages of their careers to the discipline and learned societies, and all staff contribute to important activities such as reviewing for journals, examining PhD candidates and conference/event organisation.

**i) Editorships:** During the REF period we have Edited, Co-Edited, or been Associate Editors of esteemed journals. For example, Thomas is Editor-in-Chief and Wood an Editor of the *Journal of Policy Research in Tourism, Leisure and Events*; Thomas is Co-ordinating Editor of the *International Journal of Hospitality Management*; Fitzgerald is Editor of *Adapted Physical Activity Quarterly*; Sparkes is Editor of *Auto/Biography Yearbook* (the annual refereed journal of the British Sociological Association's study group on Life Writing); Cooper is Co-Editor of *Current Issues In Tourism*; Pritchard is Associate Editor of *Annals of Tourism Research*; Dashper is Associate Editor of *Sociology*; Gledhill is Associate Editor of the *British Journal of Sports Medicine*; Watson is Editor of *Leisure Sciences: An Interdisciplinary Journal* and *Annals of Leisure Research*; Cowburn is Digest Editor of the *International Sport Coaching Journal*; Fletcher is Associate Editor of *Soccer and Society*; Lamond is Associate Editor of the *Journal of Fandom Studies*; Robinson is Associate Editor of the *Journal of Destination Marketing and Management*; Backhouse is Associate Editor of *Frontiers in Anti-Doping Sciences*; Fitzgerald and Quarmby are Associate Editor of *Frontiers in Physical Education and Pedagogy*.

Staff in the Unit also contribute to **Editorial and Advisory Boards** (e.g., *Annals of Tourism Research*, *Journal of Travel Research*, *Leisure Studies*, *Psychology of Sport and Exercise*, *Sports Coaching Review and Tourism Management*). Colleagues are recognised for their services in consistently providing very high quality, thorough and professional peer reviews. For example, Stanger was awarded Reviewer of the Year 2019 for the APA academic journal *Sport, Exercise and Performance Psychology* and Fitzgerald was named Reviewer of the Year 2020 by the *Curriculum Studies in Health and Physical Education* journal.

**ii) Discipline Collections:** Cooper edited the *Sage Handbook of Tourism Management* (two volumes); Fletcher, Long (Emeritus Prof) and Watson edited *Sport, Leisure and Social Justice* (Routledge); Sparkes edited *Seeking the Senses in Physical Culture: Sensuous Scholarship in Action*; Sparkes Co-Edited *The Routledge Handbook of Qualitative Research in Sport and*

*Exercise, and Advances in Biographical Methods: Creative Applications*; Till and Jones co-edited *Science of Sport: Rugby*; Watson edited *The Palgrave Handbook of Feminism and Sport, Leisure and Physical Education*.

**iii) Academic Expert Committees, Panels and Learned Societies.** Staff contribute widely:

- Backhouse is convenor and Chair of the **British Association of Sport and Exercise Sciences (BASES)** Clean Sport Interest Group. She led the development of the BASES Expert Statement on Inadvertent Doping in Sport.
- Burrai Chairs a Special Interest Group of **ATLAS** on Volunteer tourism.
- Cooper is a member of the **International Academy for the Study of Tourism** and one of thirteen individuals to have received the **United Nations** WTO Ulysses Prize.
- Fletcher is Chair of the **Leisure Studies Association**.
- Didymus is Elected Chair of the **Association for Applied Sport Psychology** research development committee.
- Gledhill is **BASES** Deputy Chair of the Division of Sport and Exercise Psychology. He authored the sport and exercise psychology education standards for the updated BASES Undergraduate Endorsement Scheme and developed the new Masters pre-SEPAR Endorsement Programme.
- Ivanova is the Elected Secretary of Research Committee 50 (RC50) International Tourism Research (**International Sociological Association**).
- Robinson and Musgrave are, respectively, Board members of the **Association for Tourism in Higher Education (ATHE)** and, formerly, **EuroCHRIE**.
- Seetaram is an elected member of the **International Association for Tourism Economics** and a member of the pool of experts for the **German Aviation Research Society**.
- Stride is co-convenor of the **BERA** Physical Education Special Interest Group.
- Thomas acted as an international member of the Business and Economics Panel of **New Zealand's Performance-Based Research Fund (PBRF)** (tourism specialist).
- T.Williams is founding member and Treasurer of the **International Society of Qualitative Research in Sport and Exercise (QRSEsoc)**.
- Wood Chairs the **Academy of Marketing SIG** on Events and Experiential Marketing.

Academics across the Unit serve as grant reviewers for multiple national and international organisations, including the European Commission, Economic and Social Research Council, Medical Research Council, Swedish Government Research Council, Portuguese Foundation for Science and Technology, Wellcome Trust, Social Sciences and Humanities Research Council of Canada.

#### 4.3 University Networks

We collaborate with Universities in Australia (Curtin, New England, Sydney, Queensland, Western Sydney, Federation University, Brisbane); New Zealand (AUT, Canterbury, Otago, Waikato); USA (Michigan State, New Orleans, Wisconsin, Indiana University, University of Central Florida, Minneapolis); Canada (McMaster, Queens, McGill, Brock, British Columbia, Laval, Alberta, Western Ontario); South Africa (Cape Town); Africa (Botswana, Nairobi); Brazil (Sao Paulo); China (Hong Kong Polytechnic University, Sun Yat-Sen & Zhejiang); Europe (Catania, Milan, di Salerno – Italy; Mid Sweden University – Sweden; Maastricht University - The Netherlands; Bern – Switzerland; Norwegian School of Sport Sciences – Norway; Jyvaskyla – Finland, University of Barcelona – Spain, University of the Basque Country, Spain, Nord University – Norway, The Hague University of Applied Sciences – The Netherlands, Utrecht University – The Netherlands).