

<b>Institution: University of Central Lancashire</b>
<b>Unit of Assessment 24: Sport and Exercise Sciences, Leisure and Tourism</b>
<b>1. Unit context and structure, research and impact strategy</b>

### 1.1 Introduction to UoA24 at UCLan

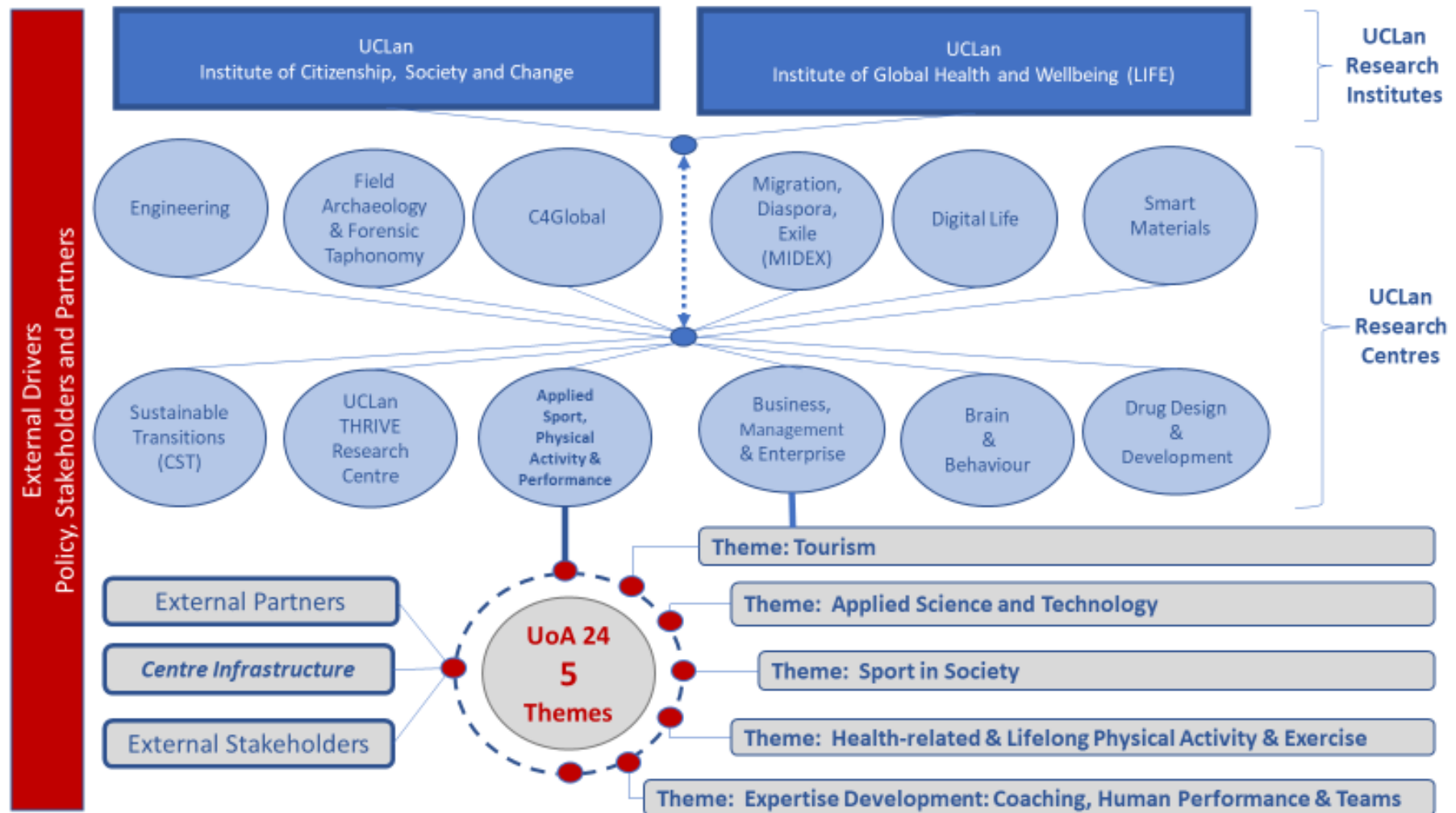
UoA24 at the University of Central Lancashire (UCLan) is evolving to meet the current local and global challenges of working in a dynamic and complex world, which is constantly changing. Under the guidance of a supportive team of senior academics, a vibrant community of academics and researchers is emerging to produce accessible knowledge and information, across the domain of Sport and Exercise Sciences, Leisure and Tourism.

This environment statement provides examples of the high-quality outputs, impact and collaboration driven by members of UoA24 to produce a vibrant and sustainable research culture. UoA24 weaves together interdisciplinary knowledge from multiple subject domains to produce an active, innovative community of researchers and academics. In order to respond to the demands across society, we actively support the development of skills and capabilities of individuals and teams, supporting national and international initiatives. The University is a signatory to the [Concordat to Support the Career Development of Researchers](#). This statement will illustrate a journey of development and evidence to demonstrate that UoA24 has a global reach, informing and supporting solutions to real world problems. Shaped by the University of Central Lancashire Strategy 2015-2020 and the subsequent Research Strategy (2018-2020), the journey for UoA24 has been steadily building over the REF2021 cycle, with a notable step-change since 2018 in high-quality and sustainable research outputs and impact. Examples demonstrate that UoA24 recognises not only the financial currency to support the development of research knowledge and impact, but also the social currency, where investing in people, communities and businesses provides a sustainable research legacy.

### 1.2 Contextualising UoA24: Institutionally and externally (addressing local, national, international agendas)

Since REF2014, UCLan has reshaped its research environment, establishing a new research ecosystem, facilitating contributions to international research excellence. Figure 1 illustrates the positioning of UoA24 in the context of the two Research Institutes and twelve Research Centres within UCLan's research environment. The emphasis of the new research structure was to address six global challenges through establishment of institutional research themes - **People, Places & Environment; Lifelong Health & Wellbeing; Transformation; Sustainable Business; Arts; Culture & Heritage and Citizenship** - which address the complexity of the modern world, and recognise the role that the University plays in providing 'real-world' solutions to enhance people's lives, support organisations and impact on society at a local, national and international level. As a microcosm of UCLan's strategic vision, UoA24 embraces the six institutional research themes in a bespoke manner, supporting collaboration in creating new knowledge and exchanging information with emphasis on driving a positive change to enhance individuals' lives, policy, society, the environment and the economy. As outlined in REF document 5a, UCLan's objective is to continue to grow a reputation as a place of excellence for research with a regional, national and international impact. The evolution of the Research Centre in Applied Sport, Physical Activity and Performance and the Research Centre for Business, Management and Enterprise forms part of the research excellence associated with Sport and Exercise Sciences, Leisure and Tourism.

Figure 1: Schematic illustration of UoA24 in context of UCLan institutional research collaborative network.



## Unit-level environment template (REF5b)

UCLan's Research Strategy (2018-2020) outlines five strategic research objectives (see section ii 'Strategy', REF 5a) with the ambition to develop an ENVIRONMENT which facilitates the production of OUTPUTS and IMPACTS which are relevant to society. UoA24 integrates these internal strategic documents with key external policies such as 'Industrial Strategy: Building a Britain fit for the Future' (2017), which focuses on the five foundations of people, place, infrastructure, ideas and the business environment.

The UoA actively engages with Government policy/agendas which are driving sport at a national level. Policy from key organisations such as Sport England, English Institute of Sport, UKCoaching combined with Local Authorities are influencing and shaping the key strategic drivers which are embedded in UoA24. UoA24 recognises the importance of sport and leisure in driving business and the leisure industry, and contributing to the physiological, sociological and psychological health and wellbeing of the population; and the increasing recognition of the role it plays within integration of specific groups within society (children, elderly and disadvantaged etc). Support for such statements are clearly evidenced in Sport England (*Sports Plan: Creating a lifelong sporting habit*, 2015) and the more recently developed Government strategy for developing a "[Sporting Future](#)", which clearly sets out a strategy which engages all aspects of society (children, elderly, minority groups, women) and is strongly linked to the [Sport England Coaching Plan](#) (2017).

Table 1 illustrates how UoA24 at UCLan is responding to Government policy through its interdisciplinary research and how it contributes to solving societal issues through the lens of sport. Further, our contribution to solving societal issues extends beyond national policies and examples are provided from international projects in the report, which include the Silver Cyclists project and the Sport in Action programme in Zambia (section 1.4) and letters from Lesvos (section 4.2).

### 1.3 Structure of UoA24 at UCLan

The following sections focus on the structure/mechanism of UoA24 at UCLan and how the unit 'speaks' to the University's key strategic themes. The unit has undertaken a transformational journey from REF2014 (UoA26) into the current REF 2021 cycle. Early in this REF cycle, the research groups highlighted in REF2014 continued to grow under the leadership of the Professoriate but were realigned to a new school structure to expand capacity, provide targeted support and develop trans-disciplinary capability. This reorganisation enabled research and impact within the unit to grow and diversify. Membership of UoA24 has increased from 24 (2014) to 43 (2021). A notable step-change occurred in 2018 as plans were implemented for the development of the new research centres at UCLan. The structure is designed to be agile and adaptable which has enabled existing research teams to address challenges in harnessing sport and activities for social good, enhancing success, performance, health and wellbeing within short time frames. The current status of the UoA24 is reflected in a vibrant, enthusiastic community of researchers who are externally facing, recognising global issues and challenges. Figure 2 presents the current structure of UoA24 at the end of the REF2021 cycle, illustrating how research groups from REF2014 have been incorporated into a new research community.

**Table 1: Examples of UoA24 interdisciplinary responsiveness to solving societal issues (local and national level)**

UoA24 Responsiveness to societal issues	
Local Examples	National Examples
Reeves has supported the development and roll-out of an arts-based mental health initiative in collaboration with State of Mind Sport. This activity has seen over 1,000 school children across Preston and Lancashire access the initiative.	Birkett has investigated exercise 'dose' in cardiac rehabilitation training programmes in the United Kingdom (UK), currently too low to improve cardiovascular health. Establishing a beneficial exercise 'dose' is improving clinical outcomes for these patients.
Palmer is supporting researchers in midwifery working with a stakeholder team of Midwifery managers from 6 hospitals in the North West (each manger co-ordinating up to 70 midwife coaches at each hospital) to evaluate the impact of a new coaching model to support increasing capacity of midwifery training on the wards.	Adams was a contributing historian for the 'Football Remembers' project. One of the outputs from the project was an education pack that was distributed to 30,000 British Schools to teach a new generation the positive messages of the Christmas Truce using the valuable association with modern football.
Melling worked with Lancashire Football Association, the Freire Institute, and Burnley Football Club, on the 'Barrier Football' project to create a programme that utilises coaching skills to generate conversations with young people from backgrounds currently under-represented in further and higher education in Pennine Lancashire.	Guiver has investigated the processes involved in successful projects to provide alternatives to car travel in three UK National Parks. The findings uncover why and how change occurs in partnerships and offers guidance on understanding and implementing change processes.

#### 1.4 Reviewing (REF2014) and Operationalising UoA24: Strategic goals, mechanisms and impact.

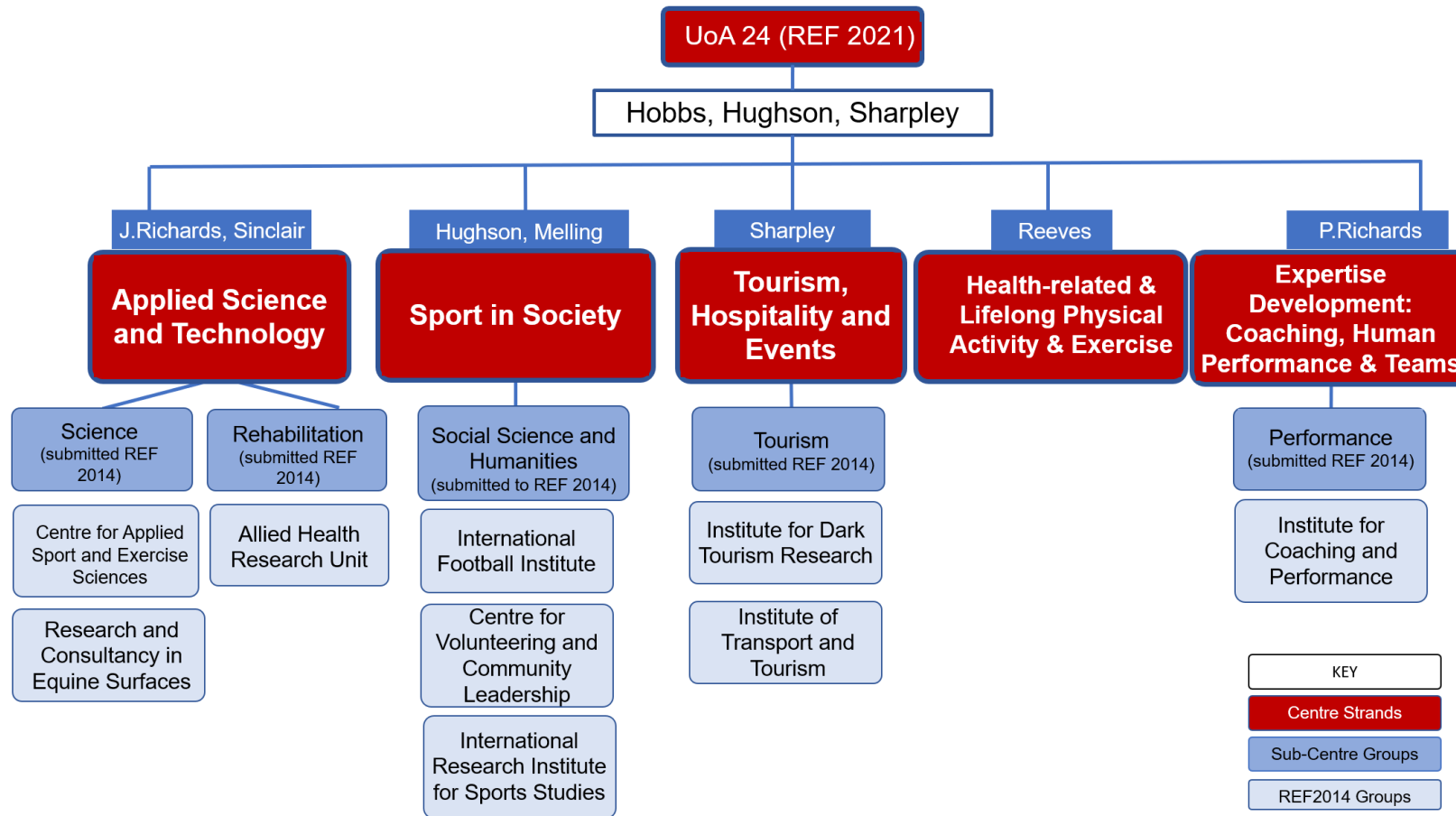
The research ambitions of the unit of assessment, documented in our REF2014 environment statement, and integrated with the University's strategic research objectives and Government agendas have evolved to meet contemporary demands and are reflected in the following statement for UoA24:

*'UoA24 seeks to enhance academic knowledge in relevant subject areas, to contribute to economic and social development regionally, nationally and internationally, and to contribute to policy making and professional practice and the enhancement of the professional reputation of the University. Overall, its vision is to enhance its international reputation for excellence in research and impact.'*

UoA24 integrates a '*vertical*' (mentoring) and '*lateral*' (peer to peer learning) staff development talent pathway, where staff are mentored and supported by experienced researchers within UoA24 (UCLan Strategic Research Objective 1) which is expanded upon in Section 2.

With regards to collaboration, a high level of co-operation, internally and externally, results in UoA24 weaving a rich network of inter-, multi- and trans-disciplinary research (UCLan Strategic Research Objective 2), see Figure 3 as an example. An objective of REF2014 was to develop key research

Figure 2: Management structure of UoA24 (as of the end of the REF 2021 cycle)



## Unit-level environment template (REF5b)

strands and to drive world class research collaborations. The Professoriate continues to support and develop UoA24 strands, ensuring continuity from REF2014. Additionally, the level of collaborations is rapidly increasing. For example, documentation from a 'Future Vision' performance review of the Institute of Coaching and Performance (ICaP), highlighted over 50 national and international collaborative partnerships (see section 4.2), which exemplifies collaboration within UoA24. Further examples of international collaborations are highlighted throughout the document.

Our contributions to solving 'real-life' challenges raises the profile of UoA24 at a local, national and international level (UCLan Strategic Research Objective 3 & 4) while simultaneously building on the key aims of increased collaboration (see Section 4) and world class research as presented in REF2014. For example, Hobbs' research outputs submitted to REF2021 all include collaborations with international veterinary researchers on high quality, real-world projects. Impact is embedded in all aspects of research in UoA24, which is shown by the increase in number and diversity (spanning the range of research areas within the unit) of projects that have 'real world' benefits. In the facilitation of an externally facing research culture the UoA24 research team has created knowledge and information which is influencing policy and changing practice (UCLan Strategic Research Objective 5 and supporting the continuation of REF2014 objectives). For example, the Institute for Transport and Tourism (ITT) are a partner in 'The Silver Cyclists' project, which officially launched in September 2015, aiming at increasing the number of seniors undertaking cycling holidays both domestically and in Europe. This project includes partners from Belgium, Denmark, Germany, Spain and Latvia and is supported by the European Cyclists Federation and Eurovelo and was co-funded by the EU COSME programme. In 2016 the 'Charter of Silver Cyclists' was developed from the project to provide guidelines and promote opportunities for the tourism industry and wider society to engage with senior European cyclists.

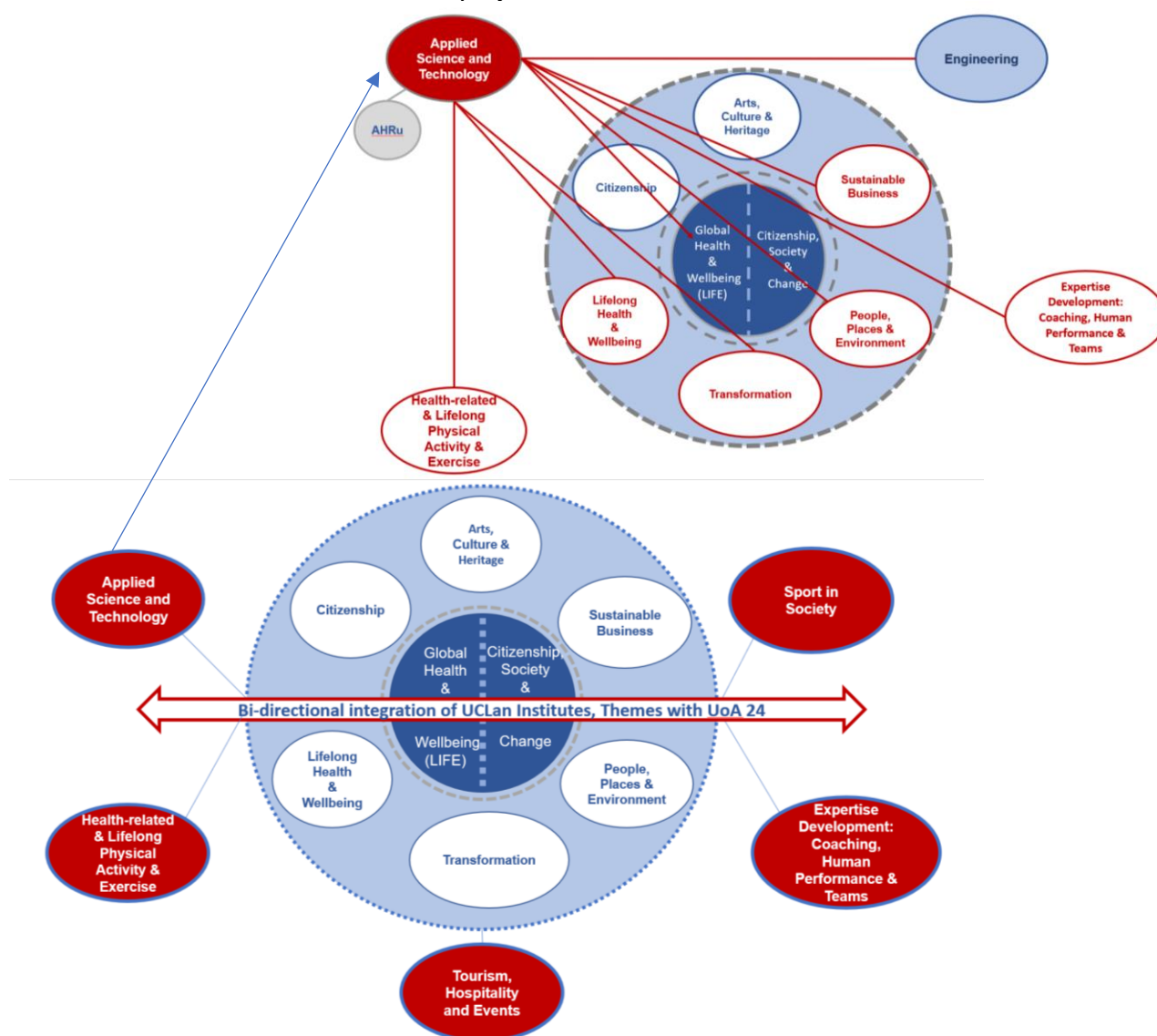
Within REF2014 we highlighted the connection between the teaching curriculum and research. UCLan is proud of its vision of learning for all and actively encourages its undergraduate (UG) community to engage with research. Building on the foundation established in REF2014, we have furthered our support for the transition of individuals from UG to PG. This is supported through the TEF documentation which shows all UG programmes having access to PG progression routes and opportunities to engage in research through research informed teaching and undergraduate internships. A case study example (Sinclair) is provided in Section 2.

UoA24 at UCLan has been operationalised through the implementation of the six pillars of success as outlined in UCLan's Research strategy (2018-2020): *structure, information, impact and influence, collaboration, communications and engagements, and integrity*. The overarching aim has been to facilitate improvements in coordinated research activities across the University, and to enhance opportunities for research active staff to develop meaningful working relationships and interdisciplinary research with colleagues located in other faculties, as well as externally. For example, since 2015, J.Richards and Chohan in the Allied Health Research unit (AHRu) have directly assisted Engineering on the ERDF funded "Innovation Clinic" project (£3.66m). This includes testing 'new to firm' and 'new to market' products for 39 SME's between 2016 and 2020, and work with Silentnight led to the development of a unique innovative algorithm to determine the 'Ideal Sleep Solution' for individuals of different body types through an Innovate UK funded Knowledge Transfer Partnership (£122K). From an international perspective, DJO Inc. fund the AHRu annually (£20K PA) to investigate interventions that may have a positive effect on Pain, Alignment, Strength and Stability in patients. One direct benefit is that 20,000 South Korean ankle fracture patients per year are now been treated using Orthotic Walkers, which have been shown to provide a faster and more effective recovery than Plaster of Paris.

## Unit-level environment template (REF5b)

The evolution of UCLan's research structure (Figure 1) enables the development and expansion of the research foundations from REF2014 and has increased co-operation across faculties, stakeholders and external partners (see Sections 2 to 4). The new structure of UoA24 (Figure 3) is a hive of interdisciplinary activity which is inclusive of all staff/researchers regardless of expertise and experience and evidences the growing research community within the unit and beyond. For example, at a postgraduate level, cross-faculty supervision is resulting in multi-disciplinary collaboration and providing a vibrant and innovative postgraduate culture. The impact of this mechanism has extended collaborative interdisciplinary research-related activities, such as co-authored publications and project work. For example, as a physiologist involved in cycling research, Hurst collaborated with stroke researchers from the LIFE institute on an electric bike project which aimed to support mobility and independence amongst stroke survivors. Whilst the research activities of staff submitted to UoA24 fall distinctively within the fields of sport, exercise, leisure and tourism, the application of knowledge is transferable across multiple domains and disciplines.

**Figure 3: Schematic illustration of the bi-directional link between UCLan Research Institutes and Centres, UCLan Themes and UoA24 integration.** *Note: the insert illustrates the interaction of AHRu staff on the Innovation Clinic project.*



## Unit-level environment template (REF5b)

In another example, doctoral supervision (n=8) and external project work in the area of team decision-making established by UoA24 is resulting in knowledge and information being transferred to military and fire service settings to inform policy/practice and development at national/international level. This demonstrates a high level of collaboration across the University, in addition to working with external stakeholders and partners globally. UoA24 is therefore uniquely positioned as a unit of assessment, in that it makes a valuable contribution to all six of the University's strategic themes (see Table 2). Staff and PGRs are encouraged to engage in the research environment through the activities of the Research Institutes and Centres and through membership of early career researcher (ECR), mid-career researcher (MCR), and Professors and Readers discussion forums, which support a vibrant community of innovative researchers and academics working across multiple disciplinary boundaries.

### 1.5 Vitality and Sustainability: UoA24 approach to 'impact'

UoA24 recognises the importance of the impact of research for the benefit of all stakeholders locally, nationally and internationally. As such, UoA24 research leads work with all staff to identify, plan and develop impact stemming from new research and to aid in the expansion of existing Impact Case Studies. In addition, several mechanisms are used to support the development, vitality and sustainability of impact. These include interdisciplinary collaboration and internal funding opportunities such as the Catalyst Funding Scheme. This scheme funded projects to examine the challenges faced by fire fighters in complex technical rope rescues that involve flowing water, to purchase two handheld dynamometers to facilitate data collection of two clinical trials in Malaysia and to conduct a survey to evidence the impact of research on equine hooves. Central support from Research Services helps to align staff to support projects, and *vertical* learning mechanisms, such as individual and group support from the Professoriate and Readers Forums, workshops, presentations and group activities are used to develop and discuss projects, impact and evidence.

Potential Impact Case Studies are identified and supported, based on 1) their link to UCLan and UoA24 strategic aims, 2) their ability to contribute to an innovative sustainable solution and/or address an important societal issue, 3) their capacity to facilitate interdisciplinary collaboration of researchers, stakeholders and industrial expertise.

An example of impact planning is illustrated well by a case study from International Football Institute (IFI). At the start of this REF period, staff in IFI made a strategic decision to focus on research topics with pertinence to national events. Historical research undertaken by Adams (a specialist, WWI military history) and supported by the research of Hughson (war-related football art) uncovered the truths around Britain's collective memory of 'the Christmas day football match in 1914' which enhanced events, activities and learning during the 100-year anniversary of WWI from 2014-2018. This work forms part of the Impact Case Study 'Football and War'.

In UoA24, identifying potential reach and significance of real-world impact is an important driver to support research development. For example, research conducted for 'Sustainable Transport Systems' on issues of mobility in contemporary society is supported by UoA24 as it directly impacts tourist travel patterns within the UK and Europe. Additionally, this research aims to improve the sustainability of tourist travel practices by reducing the environmental impact of leisure travel, while increasing the benefits for travellers and destinations. 'Improvements in non-surgical treatments of orthopaedic conditions of the lower limbs' describes innovative work carried out by the AHRu, which includes the creation of a Health App class 1 medical device that allows clinicians to subgroup patients with Patellofemoral Pain. By subgrouping patients, it is possible to provide them with targeted treatments, facilitating improved outcomes and assistance in clinical decision making, demonstrating improvements in clinical practice. Since 2014 the AHRu's work on non-surgical



## Unit-level environment template (REF5b)

treatments for knee pain has helped over 50,000 patients across Southeast Asia and changed prescription guidelines in New Zealand. This demonstrates a notable increase in reach since 2014. The impact of 'Mega sports volunteerism and transforming lives through student peer leadership and mentoring' is also far reaching. An example of this work includes the Sport in Action programme in Zambia, which is a case study on the UN SDG Platform, where since 2014 over 100 student volunteers have delivered life skills programmes in Kwabe and Lusaka impacting on the lives of over 3500 young people. Both UoA leads and Research Services have assisted the case study authors in exploring and refining the extensive impact evidence. Further benefits from this work are included in Sections 2 and 3.

Internal funding support for impact that has the potential to make a difference, particularly in areas where funding opportunities are scarce, is an important driver for UoA24. The Impact Case Study 'Improving horse health, welfare and performance' was internally supported in the previous REF cycle which has transformed global equine surface awareness from subjective to objective since the publication of the Equine Surfaces White Paper in 2014 (see Section 3). UoA24 recently supported the technical rope rescues project (discussed above), which is part of a potential future 'Decision Making' Impact Case Study. This project was funded to investigate the conflicting protocols used in water rescues and the results are informing the decision-making processes in still versus flowing water rescues in the future, which can be life threatening.

Figure 4 outlines both the current Impact Case Studies and potential future impact as UoA24 transitions into REF2027.

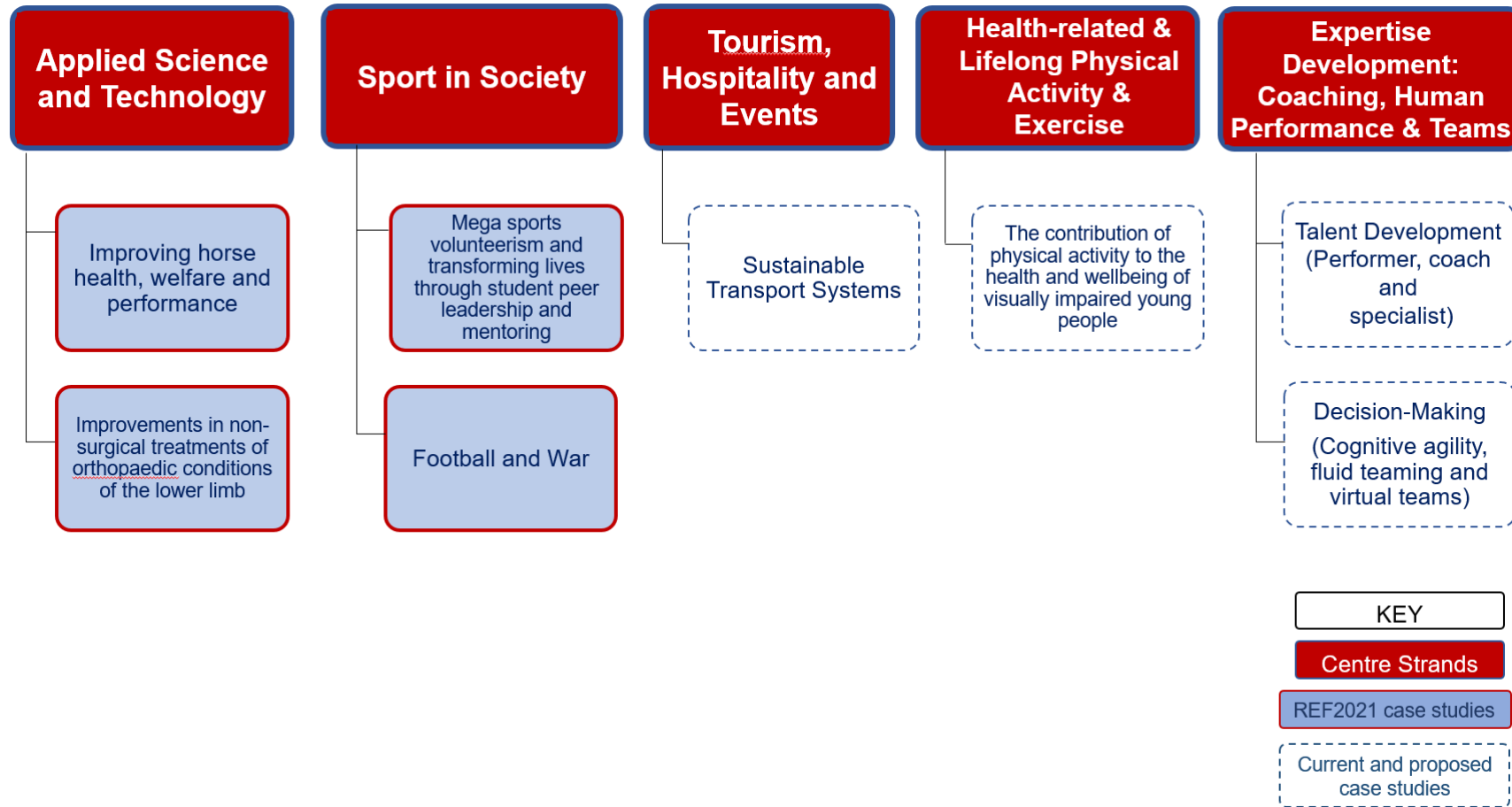
Impacts continue to expand across multiple REF cycles (2014, 2021, 2027). Progression is demonstrated in both the increased impact of the case studies presented by UoA24 and their impact at world level. The introduction of the two new research areas of 'Talent Development' and 'The contribution of physical activity to the health and wellbeing of visually impaired young people' within UoA24 are already laying strong foundations for Impact Case Studies for REF2027.

### 1.6 UoA24: Towards an Open Research Environment

UoA24's strategy fully supports UCLan's research policy, 'Open Access' and 'Data Sharing', the three REF elements, Deposit requirements, Discovery requirements and Access requirements (REF2021). Staff outputs are stored on the University's internal repository, Central Lancashire online Knowledge (CLoK) within three months of journal acceptance. Staff are responsible for ensuring their own compliance; however, the University Open Access team and the Faculty Research Support Enquiries Team support this process by promoting awareness, registering new outputs, uploading author accepted manuscripts and monitoring compliance. With regards to 'discovery' requirements of open access, search engines effectively guide the user to locating open access material which is bibliographically presented on CLoK. With regard to the criterion of 'access', material is presented which enables download, readability and access to text and adheres to the Creative Commons Attributions Non-Commercial Non-Derivative (CC-BY-NC-ND) licence.

UoA24 expands the open access remit outlined by REF and provides increased open access '*reach*', making the information and knowledge obtained from outputs from UoA24 more accessible through a range of dissemination mechanisms. For example, J.Richards' shared access to a kinematic paper on 29 April 2018 for 100 free downloads through social media. Work shared by Kiely on Twitter, who has 12,700 followers, engages an international community of practitioners/researchers, facilitating the exchange of knowledge. Palmer and Sprake wrote 'Physical Education is just as important as

Figure 4: Schematic illustration of current (REF 2021) Impact Case Studies and impact pipeline



## Unit-level environment template (REF5b)

any other school subject' for *The Conversation*, which was translated into Indonesian and has had 322,103 views to date.

In collaboration with organisations, information and knowledge is disseminated through other virtual mechanisms such as webinars and YouTube videos. For example, P.Richards has delivered webinars for UKCoaching to a world audience supporting coaching delivery across the performance spectrum. J.Richards has delivered over 200 invited talks to clinical groups, sports clubs, companies and academic groups in over 30 different countries, across six continents since 2014, and produced a series of YouTube videos with DJO Inc. on non-surgical treatments for orthopaedic conditions, which have been viewed over 15,000 times. Further examples of broad dissemination are provided in Section 4.

UoA24 also promotes access to data sharing, which is supported through UCLan's data repository. One example being 'An exploration of the influence of diagonal dissociation and moderate changes in speed on locomotor parameters in trotting horses' which has recorded 39 downloads of the complete dataset since 2016. For open access journals, such as *PLOS One* and *PeerJ*, raw data is made available as supplementary information where possible. In addition, new methods are being made available openly on platforms such as protocols.io, an example being 'Multi-dimensional, time continuous ground reaction force vector analysis' ([dx.doi.org/10.17504/protocols.io.r3dd8i6](https://doi.org/10.17504/protocols.io.r3dd8i6)), which has had 44 views and 17 downloads of the methods since 2018, and a protocol published in *BMJ Open* on the 'Targeted interventions for patellofemoral pain syndrome (TIPPS): classification of clinical subgroups' ([doi:10.1136/bmjopen-2013-003795](https://doi.org/10.1136/bmjopen-2013-003795)) which has been cited 40 times since 2013.

Finally, in context of the three REF principles of Equity, Equality and Transparency, UoA24 demonstrates a culture which promotes inclusion, addresses inequalities, values diversity and demonstrates research integrity through adherence to the University's policy and procedures, as outlined in document 5a and evidence presented within this document. The research culture of UoA24 supports the Athena Swan Charter and principles, 'The Concordat for Research Integrity' (2019) and the attainment of high ethical standards as per the Global Code of Conduct for Research. It achieves this through *vertical* learning, demonstrated by supervision of PG students, mentoring of researchers at all levels, and active engagement of staff in equality and diversity and ethics and integrity training.

## 2. People

### 2.1 People, Strategy and Staff Development

UoA24 has a culture which is staff-centred, focusing on both the *vertical* and *lateral* integration of experience and collaboration to develop its members, at all levels of the research continuum from ECR to Professorial level. Empowering staff to contribute to both the research journey of the University and specifically UoA24, in conjunction with them steering their own personal development, has produced a culture that breeds innovation and visionary ideas. Table 2 presents the integration of strategies (institutional and UoA24) and mechanisms, using UoA24 examples to illustrate our approach to developing staff careers.

Table 2: Integration of Institutional strategy, UoA24 objectives, mechanism in context of evidence.

Strategy: UCLan Strategic objectives (2018-2020): (Section 1.2)	Strategy: UoA24 objectives: (Section 1.4)	UoA24 Development Mechanisms Note: UCLan Mechanisms*2 described below are also used to achieve strategic objectives	Selected Example
1. To support academics & research students in their research relevant to their career stage	<i>enhance the development of individuals</i>	Internal Peer Review/ mentoring/ hours for research & scholarly activity/ PhD & DProf Staff support scheme/ appraisal/ reviews/ probation support/ identification of training/ research potential (recruitment)	Bentley: UG & PG student, appointed in 2012 as demonstrator, promoted to Lecturer 2013, PhD awarded 2020, currently ECR status.
2. Deploy resources to support research & encourage collaboration	<i>enhance academic knowledge in relevant subject areas and individuals</i>	Centre strategic planning & development/ identify & secure external funds/ bid review/ source collaborative staff & external partners/ provide multi-disciplinary internal workshops & conferences/ networking	St George: ECR, supported to develop collaborative bids with Utrecht/Delsys Inc. in equine sEMG research following PhD completion (2017).
3. Increase UCLan's external profile as a research provider and place of research for academics and students	<i>enhance the professional reputation of the University</i>	PGR support & guidance/ engage in e-ethics & research governance training & committees/ keynote & international presentations/ promote 'open' research	MacBeth/Palmer: Lead RDTs, Created PG online Teams community and information source (2017) and organise annual PG Research Seminar Series.
4. Build successful collaborations	<i>contribute to economic and social development regionally, nationally and internationally</i>	Expand external networks & collaborations/ secure Distinguished Collaborator funding/ develop external professional associations, memberships & links/ assist SMEs/ provide volunteer support	Sharpley: Collaboration with Wakayama University and presented to the Japan Tourism Agency, in Tokyo (2019).
5. Provide a leading contribution to developments in policy, practice, technology and services as an anchor institution	<i>to contribute to policy making and professional practice</i>	Collaboration with practitioners, clinicians, NGB's, professional & governing bodies/ DProf & MProf routes/ access to P-T PGR programmes	J.Richards: Leading MedTech Solutions, collaborating with Engineering, designers and companies, currently testing the next generation of PPE.
6. Support the development of excellence	<i>enhance its international reputation for excellence in research and impact</i>	Internal review process for outputs & impact case studies/ focussed workshops/ internal funding/ support for internal funding applications	Weedon/L.Collins: Internal review of outputs and bids and funding support for fire service & technical rescue research project.

**UCLan Mechanisms\*2**, include Research Services / Juno /HR Excellence in Research scheme, Research Development Unit (RDU), Grants and Funding Unit (GFU), UCLan Knowledge database, Scholarly Communication Unit (SCU), Research Governance Unit (RGU), Distinguish Collaborators Programme (DCP), Research Excellence Unit (REU).

## 2.2 Staff

UCLan staffing policy is implemented by Heads of School with input from research leads. All submitted staff in UoA24 have a permanent employment contract. Five staff have HESA 2 contracts and the majority have HESA 3 contracts. Four staff have professorial roles (Hughson, Melling, J.Richards, Sharpley), supported by four readers (Hobbs, Sinclair, Reeves, Gammon). Eight staff are currently ECR's, either studying towards or recently graduated from postgraduate research programmes.

UoA24 has a transparent and equitable recruitment policy. Staff appointments during this REF cycle have been targeted towards enhancing discipline-specific areas of research strands (See Figure 1). For example, Reeves was appointed to lead the research area of Physical Activity & Health and P.Richards was appointed to replace Collins and lead Expertise Development. From a sociocultural perspective, the appointment of Rookwood in Sport Studies in 2017 has significantly added to the research strength and capacity in football. Such appointments support the current UoA24 research strategy and add further support for the development of future research and impact, as illustrated in Figure 5.

In addition to full-time (FT) appointments staff are also recruited on a part-time (PT) basis. Within this REF submission 4 staff are PT. The appointment of PT staff supports the needs of individual staff members within the University. In some cases, the appointment of PT staff is providing a hybrid link between industry and academia/research. For example, Cruikshank is employed PT to support doctoral students within ICaP but is seconded to British Judo to support preparation for the Tokyo Olympic Games. This example illustrates support for PT staff secondments to develop the individual's career and to link to industry at world-class level. Such support continues to grow the PGR experience and world-class research.

All staff within the submission are supported with research and scholarly activity hours at a minimum level of 42.5 days a year (320 hours). Staff with a larger number of research responsibilities are provided with more research hours bespoke to their role, which is identified and agreed through the appraisal process. To facilitate staff development to doctoral level, up to 320 hours are provided to study for a DProf or PhD part-time. For staff with significant responsibility for research, research objectives are defined based on UoA24 research goals and their career aspirations. Progress is monitored through mentoring and appraisals. This enables a transparent and equitable culture for all staff to engage in at all levels. This system allows personalised support of individual members in UoA24, empowering staff to engage with research in a manner which addresses their bespoke needs. This approach enables staff research development to be maximised. It is estimated that every staff member has a minimum of £10K (320 hours x £32) for research time annually. For UoA24, this equates to the University investing over £400K in staff time for UoA24 annually.

In addition to support for time, staff are also supported through other mechanisms, as outlined in Table 2. The integration of '*vertical*' and '*lateral*' mentoring systems enables staff to be supported by peers ('laterally') but also be guided by experience ('vertically'). For example, Sinclair is an example of effective mentoring and developmental support. Having graduated with BSc (Hons) in Sports Science (2009), he went on to complete a PhD (2013), progressed his specialist area of research in musculoskeletal modelling whilst on a teaching and research contract and was promoted to Reader (2019) transitioning from ECR, to MCR onto Reader in six years. He has an outstanding research profile, some of which is highlighted in Section 4. Other internal research promotions during this REF cycle include St George (promoted to Research Associate), Hobbs and Gammon (both

## Unit-level environment template (REF5b)

promoted to Reader) and J.Richards (promoted to level 2 Professor) and a number of teaching and research contract promotions.

The majority of staff in the submission are engaged as members of doctoral supervisory teams. In addition to facilitating a growing PGR community, as outlined below, engagement in doctoral supervisory teams by UoA24 members promotes interdisciplinary working across University departments. For example, Wilson (student) who is studying professional dance is supervised by P.Richards, supported by an interdisciplinary team from performance, sports therapy (Alexander) and coaching (Stoszkowski), providing a rich diversity of knowledge and skills support for the student. UoA24 promotes active engagement of its staff in the supervision process with the support of the University's training programme on research degree supervision.

### 2.3 Students

Building on REF2014, UoA24 continues to sustain and develop its PGR community with a buoyant number of current PGR doctoral enrolments (REF2014, n=115; REF2021, n=116) and an increase in completions (see Table 3). The profile of PGR enrolments continues to include a high number of part-time students (89%) engaged in relevant areas of professional practice. The majority of PGR students are self-funded, although 26 staff have received support to study from UCLan during this REF cycle and UoA24 have gained several funded studentships.

**Table 3: No. of doctoral completions for PhDs and Professional Doctorates (DProf)**

Doctoral Programme	Academic Period							Total
	2013 /2014	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	
PhD	11.25	10.75	10.50	6.75	7.00	13.25	9.50	69
DProf	1.75	2.00	0	2.25	1.50	5.00	7.50	20
<b>Total</b>	<b>13.00</b>	<b>12.75</b>	<b>10.50</b>	<b>9.00</b>	<b>8.50</b>	<b>18.25</b>	<b>17.00</b>	<b>89</b>

*Part completions represent joint supervision across more than one UoA*

UCLan UGs benefit from a 20% reduction in postgraduate fees, and this has encouraged outstanding students to continue their lifelong learning journey at UCLan and progress onto postgraduate study. UoA24 also supports external scholarships. For example, the IFI (Hughson) drew upon its established experience within the museum sector to target external funding. This resulted in two PhD studentships fully funded by the Arts and Humanities Research Council in the Collaborative Doctoral Partnership Scheme. Hobbs directed two Myerscough College funded PhD studentships in equestrian research, part of ongoing research work with Federation Equestre International (FEI) and British Eventing. Another example is provided from a Royal Navy funded DProf, exploring the future physiological capability of Navy personnel under the supervision of P.Richards and Sinclair. Investing in the future generation of practitioners, UCLan has funded two PhD studentships in football in this cycle. The first 'Women's Football as Work' was successfully completed by Culvin (2019). The second stems from an internal collaboration of UoA24 with staff in the LIFE Institute and has resulted in a successful studentship on 'An Exploration of Mental Health and Wellbeing in Women's Football' which commenced in January 2020.

The recruitment pattern of PGRs in UoA24 indicates a growing, healthy community of researchers. Our strategy is based on building the reputation which we have developed over recent REF cycles, providing quality student supervision by expert staff, driving research informed practice, resulting in an excellent student experience. The dedicated approach of UCLan's admission team, combined

## Unit-level environment template (REF5b)

with the expertise and external profile of staff, guides the student through their PG journey from admission onto doctoral submission and graduation. The journey is bespoke to the individual enabling all students, including those with protected characteristics, to be integrated into UoA24 research community and have their individual needs met throughout their studies.

Beyond the doctoral PGR community, UoA24 also aims to inspire this, and the next, generation of research professionals from within and outside of the University by providing learning opportunities for staff, students and practitioners to engage in our research. For example, the reputation of the AHRu has attracted over 50 funded staff and student visitors since 2014 to work with research staff and to use the research facilities. This includes staff and students from Czech Republic (n=10), Germany (n=8), Spain (n=6), Italy (n=5), Turkey (n=5), Brazil (n=4), Thailand (n=4), Belgium (n=3), Taiwan (n=2), Canada (n=2), and South Korea (n=1), USA (n=1), and New Zealand (n=1). ICaP currently supports 43 MPhil/MProf students, primarily practitioners, that are engaged developing applied research designed to enhance practice. Doctoral students from other universities have been supported by UoA24 staff in a supervisory capacity, such as PGR students from the Swedish University of Agricultural Sciences and the University of Antwerp (also see section 4.3). Undergraduate students are also given opportunities to engage research projects annually under the supervision of UoA24 staff through the Undergraduate Research Internship Project scheme.

### 2.4: Examples of key stages of the student's journey

All full-time students are required to attend a compulsory Graduate Research Skills programme, at the outset of their study. Part-time students are required to complete courses within the Epigeum online programme to develop core research skills. The early stages support the student in planning their research journey in the context of their career aspiration and personal/professional interests. For example, in some cases students will explore an action plan for development while in other case students may write a letter to their 'future self' highlighting what they hope their journey will accomplish.

During their study, PGRs are encouraged to attend training courses offered by the University free of charge and engage with other students and the extended research community. Research seminars, informal events and conferences for postgraduate students are held across the University. For example, since 2014 the University has run an annual 'Three Minute Thesis' competition with the winner going through to the Vitae Three Minute Thesis UK competition. At a more discipline-specific level, one of many examples is 'the Qualitative Bazaar' in 2019 successfully hosted by Palmer who holds a UKCGE Award and who has hosted over 20 events over the last four years for School, Faculty and cross University PGRs.

Student progress is monitored through the formal Annual Assessment of Progress to ensure that appropriate progress is maintained throughout their studies. In conjunction with formal process, students receive support at an informal micro level, enabling additional/ extended skills to be obtained. This includes developing reflective skills for working in research and applied settings. For example, Quinn (student) has been integrated into a multidisciplinary research group focusing on 'physiological demands and performance in Rugby League'. This supports the student engaging/ reflecting on their own personal and professional practice with other experts/ practitioners/ researchers (internal and external) on a parallel journey to their thesis. Furthermore, students are encouraged to develop additional research skills (networking at conferences and publications). For example, Butters (student) co-authored a publication with Sinclair investigating the start position in the snatch Olympic lift, McCarthy (student) co-authored publications with Collins on talent identification frameworks in sport, and Brown (student) was lead author on 'From headliners to hangovers: Digital media communication in the British rock music festival experience' published in

## Unit-level environment template (REF5b)

2020 with Sharpley as co-author. All of these examples illustrate a link to skill sets which inform and support future career progression.

### 2.5: Supporting individuals with protected characteristics

UoA24 is supportive of the REF principles of Equity, Equality and transparency for all staff and students regardless of the stage of their development journey. In support of Athena Swan Charter and principles, institutional research policy and the Concordat, UoA24 endeavours to promote equality and diversity in its research and employment practices in a range of ways. This includes, where appropriate, providing support and adjustments to enable those with protected characteristics (including disabled people, women, LGBTQ+ and BAME communities) to thrive in the research environment. Examples of this support include providing flexible working patterns with chosen workdays and pre-school facilities for staff returning from maternity leave. Securing sabbatical time, *vertical* mentoring, PGR opportunities and/or internal funding to progress has also resulted in promotion and support for career paths of staff with protected characteristics. Staff promotions from this group include those identified previously, a promotion from SL to PL and three staff gaining permanent contracts in this REF cycle.

## 3. Income, infrastructure and facilities

### 3.1 Income

In line with our philosophy outlined in sections 1 and 2, UoA24 recognises dual benefits from academic research and impact, supporting the development of both a financial and socially sustainable economic research environment. In line with traditional finance metrics, UoA24 evidences its contribution to income generation through research bids and scholarly engagement. In addition, UoA24 recognises the impact of the social economy (people and volunteering), as outlined by the Bank of England's Chief Economist (2014) who stated that the social currency of 'Social Value of Volunteering' (SVV) is big business. Expanding on this further, Haldane ([Join In, 2014](#)) stated, SVV as a social currency is a 'hidden jewel', the social value of which is rarely subject to public valuation. In the 'Join In' report it is estimated that this new economy is worth £53 billion in sports volunteering alone (Sport England, 2014). Given the challenges of austerity, UoA24 has actively driven a strategy of facilitating social income (SVV) generation through the activities of the Centre for Volunteering and Community Leadership (CVCL). This innovative approach, together with income generation through research bids, addresses the aims from REF2014 of increasing and maximising research income, promoting sustainability and vitality of UoA24, as the unit progresses into the next REF cycle.

#### *Financial Income Generation:*

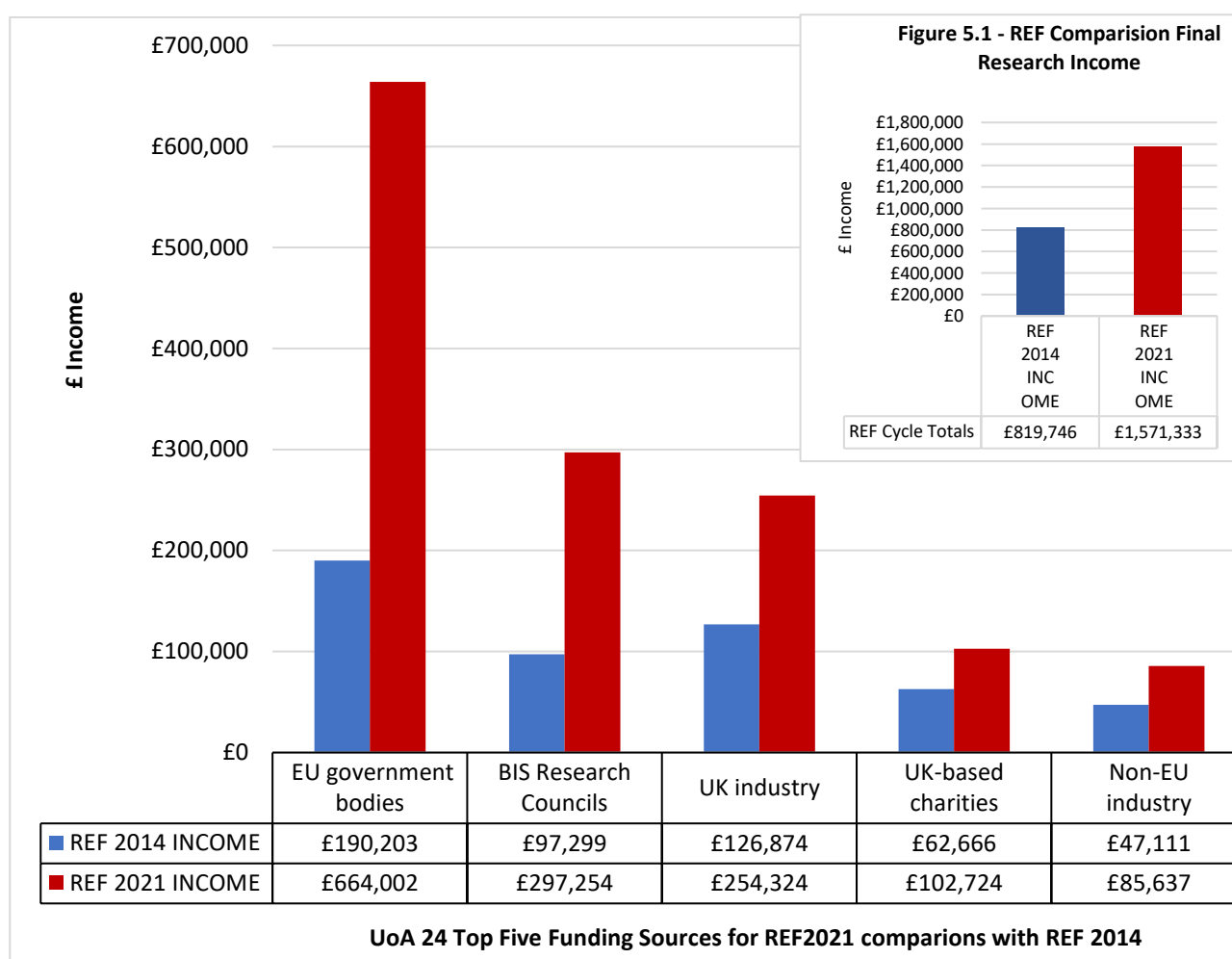
During the REF2021 cycle the enhanced infrastructure (see Section 3.2) has resulted in significant income generation for UoA24. Trend analysis demonstrates an increase in the value of bids applied for (either as principal investigator or co-investigator) from £2,235K (2015/16) to £5,050K (2019/20). This is reflected in the values of successful awards which increased from £199K (2015/16) to £967K (2019/20). Specifically, income generation from BEIS ([Industrial Strategy](#), 2017) and EU bodies has increased significantly, with more funding being secured at national and international levels (Figure 5). The increase in income generation is supported by multiple infrastructures, at an institution level (e.g. Grants & Funding Unit) and at a UoA24 level (e.g. peer support/mentoring and bid writing) both supporting staff through the grant submission process (see Section 2, for staff development, Table 2 for institutional/UoA24 infrastructure connectivity and Section 3.2 for specific examples).



## Unit-level environment template (REF5b)

During the REF2021 cycle, external funding has significantly increased from £820K (REF2014) to £1,571K (REF2021). Notable examples of research income that UoA24 (AHRu) has led or supported include the involvement of 20 staff contributing to the successful £3.6m Innovation Clinic European Regional Development Fund (ERDF) project, bringing in £557K against staff costs; the successful completion of two Knowledge Transfer Partnerships (KTPs) worth £250K, which were rated as outstanding by Innovate UK, resulting in significant growth in two companies, with an estimated increase in revenue of £5m to date. The AHRu actively engages with industry partners and has secured over £200K from direct funding from medium and large national and international companies since 2014.

**Figure 5: UoA24 Top Five Funding Sources for REF2021 comparison with REF 2014**



**Key:** 1- EU Government Bodies; 2-BIS Research Councils, Royal Society, British Academy & Royal Society of Edinburgh; 3-UK industry, commerce and public corporations; 4-UK-based charities (open competitive); 5-Non-EU industry, commerce/public corporations

Other examples include:

- 1) J.Richards is currently the theme leader for “Facilitating the Next Generation of Leaders in OA Tech” within the £1.18m EPSRC funded OATech+ project led by Cardiff University
- 2) Hobbs was invited to bid for FEI funding to evidence the Para-Dressage classification system, securing £107K income
- 3) Horne received £41K from the AHRC to document the London 2012 knowledge legacy

**Unit-level environment template (REF5b)**

- 4) As part of the ITT, Weston has secured over £250K for projects in sustainable transport, most recently £108K of ERDF funding for his work related to the promotion of cycling
- 5) Sinclair is currently providing statistical support for several bids including a £2m BBSRC grant for C4Global on investigating wheat biofortification in Pakistan and also leads a £27K project to investigate tart cherry supplementation for PFP patients.

This range of income generation highlights world-wide research and impact, and distribution of income generation across all four centre themes. This includes securing income for historically lower funded disciplines, supporting the diversity and specialisms of staff across UoA24.

In the context of austerity, the increase in growth provides compelling evidence that UoA24 continues to develop and grow in challenging times, owing to the sustainable strategies, infrastructure and staff development which is in place.

*Social Income Generation (SVV):*

In addition to the growing success highlighted above in financial income generation, UoA24 has also innovatively driven the SVV as outlined in paragraph one. This is a key part of the UoA24 strategy for driving a sustainable income through the development of a sustainable workforce, which in turns enables sustainable projects to enhance society. The capturing of SVV is challenging owing to the breadth of projects engaged with across the University, and the mechanism to capture this data is a feature of the next REF 2027 cycle. However, Melling's Impact Case Study on 'Student Volunteerism' provides an example from this REF cycle of the value and impact of SVV evidence.

The Impact Case Study outlines how, since 1999, this research has been successful in securing £3m in external grants. However, what is more impressive is the SVV currency calculated as part of this work. During this REF2021 cycle, 5,140 students have been supported to engage in 64,130 hours of volunteer Knowledge Exchange, working with 500 National Government Organisations. In context of Haldane (Bank of England, 2014), this equates to approximately £800K SVV income. It could also be argued that this figure is an underestimation, with the SVV being calculated for the duration of the project only, and it excludes the currency related to the continuation of work beyond the end of the project. Figure 6 provides an example of one project relating to this case study and the SVV which has been generated.

**Figure 6 Case Study Example of 'Social Value of Volunteering' (SVV) Currency:**

**Project Title:** *Letters from Lesvos (shortlisted for Times Higher Education Awards 2020)*

**Overview:** *Based in Greece and Italy, the project worked in collaboration with 'Save the Children, Médecins Sans Frontières, Metadrasi, United Nations High Commissioner for Refugees (UNHCR) and the Red Cross, engaging with 400 unaccompanied children. The aim of the project was to develop social capital, self-advocacy, and transferable skills so young people can help themselves and support others moving forwards.*

**Delivery of Project:** *Student volunteers ran arts and activity-based projects exploring leadership and identity with the unaccompanied minors who were refugees or asylum seekers.*

**Impact:** *In terms of SVV currency calculation, this project engaged 39 students for 100 hours each, producing a value of 3,900 hour of engagement. When translated this produces a value of £48,750 SVV for this one project alone.*

## Unit-level environment template (REF5b)

### 3.2 Infrastructure

It is recognised that key characteristics are attributed to world-class research units ([HEFCE/RAND, 2015](#)). Using these attributes as guiding principles for the development of world-class research units, UoA24 supports the integration of these attributes, through numerous University support services (see REF 5a) and internal mechanisms, as outlined in Table 2, Section 2. In addition to the main support structures, UoA24 has benefitted from targeted support offered by the Research Support Team located in the LIFE Institute. For example, systematic review expertise (Reed) was provided to support the development of 'A scoping review of determinants of performance in dressage'. QR funding allocated to centres and institutes has also supported research projects. An example of QR funding for a project is captured from the socio-cultural discipline (LIFE funding stream), where Macbeth secured 'Sparkes' funding to host a visual impairment, sport and physical activity workshop (2019). The workshop involved collaboration of multi- and interdisciplinary groups of researchers (UCLan) and external stakeholders, enhancing subject knowledge of UoA24.

As outlined in Section 1, the creation of Research Centres (Figure 1) contributes and enhances the existing infrastructure developed in REF2014. The new centres provide an infrastructure which integrates process, people, resources and systems in an interdisciplinary manner, facilitating a community based on staff support, collaboration and the development of excellence. At a systems level, UoA24 facilitates the successful identification and development of external research income submissions. Discipline leads mentor staff within their area of research reviewing and supporting bid preparation. For example, the AHRu has actively developed ECRs and MCRs within its successful bid writing activities (Alexander, Chohan, Chapman, May) to further increase capabilities and capacity. Similarly, Hobbs has supported ECRs and MCRs in bid writing and review for CASES (Sinclair, Hurst, Allan, St George, Graydon), which has resulted in an increase in bid submissions and successful bids (as principal investigator or co-investigator) from one submission (which was successful) by REF2014 to over forty bids (nine successful) during this cycle.

Staff from UoA24 also support research infrastructures through engagement on institutional committees 1) Ethics committee (Chohan, Hurst), 2) Pro-vice Chancellor's Research Strategy Group Meeting (J.Richards), 3) the development of University wide ECR, MCR and Professors and Readers discussion Fora (J.Richards), 4) Research Degrees Board (Sharpley, Hughson), 5) Academic Board (Sinclair). At an operational level specialist staff are employed to technician and research assistant roles to support laboratory work and provide research support. In addition, strand leads meet quarterly and feedback to the Pro-vice Chancellor's Research Strategy Group to inform strategic decisions. Further examples of research support infrastructure are presented in Section 2, staff development.

### 3.3 Facilities

The Movement Analysis Laboratory within the AHRu offers world-class facilities with the highest standards and latest equipment for the assessment of movement, from an investment of approximately £400,000. This includes advanced motion analysis, force measurement, electromyography, inertial measurement unit systems, pressure measurement, muscle and strength assessment, tissue oxygenation monitoring, thermal imaging, and state of the art sensors for electromyography decomposition. As a result, the AHRu has attracted more than 50 international visitors since 2014 from across 5 continents. The Movement Analysis Laboratory also contains offices for visiting researchers and currently supports 10 PhD students and staff projects from across the University.

## Unit-level environment template (REF5b)

UCLan has complementary sports science facilities that include physiology, sports biomechanics, and nutritional assessment laboratories as well as a strength and conditioning suite. These laboratories are used for teaching, research and consultancy and are British Association of Sport and Exercise Sciences (BASES) accredited for anthropometry, heart rate, respiratory gas and lactate analysis. UCLan has also invested in field testing equipment including equestrian surface testing tools, as well as a mobile motion analysis system. This array of mobile equipment has been used in countless studies including the assessment of equine locomotion and downhill mountain biking.

For field-based research, students/staff can access Sir Tom Finney Sports Centre, a multi-million pound, state-of-the-art, purpose built indoor facility on the main University Campus. Fifteen Pacific countries completed their preparations ahead of the London 2012 Olympics using these facilities. Recently, this facility was used to support COVID19 in the format of a 'Nightingale' hospital. Outside of the main Preston campus UCLan also has a Sports Arena which offers a variety of high-quality facilities. These include grass football and rugby pitches, a 3G football pitch, an eight-lane international standard athletics track, tennis and netball courts, a cricket pitch, a 1.5 km cycle circuit, and all-weather grids and pitches.

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

#### 4.1 Support for Collaboration

This section highlights the extensive network of interdisciplinary collaboration and parallel support systems, which empower staff to engage in collaborative scholarly activity. The 'research development ecosystem' presented in section 2 (Table 2), with its positive supportive research culture, is the catalyst for stimulating external collaboration with industrial partners and stakeholders, supporting the cyclical link between theory and practice.

Senior management within UoA24 actively support the development of collaborative networks, enabling staff to facilitate a dynamic link between innovative interdisciplinary research projects and external stakeholders and partners/ networks. For example, J.Richards was supported to conduct a two-month secondment to attend Mahidol University (Thailand). This collaboration supported the development of 15 papers and three grant submissions to develop clinical subgrouping and intervention development for neuromuscular and musculoskeletal conditions. The secondment included knowledge exchange through the delivery of workshops/ seminars in partnership with Mahidol University and industrial partners DJO Global.

UoA24 staff are also supported to attend networking events. For example, in collaboration with industry, P.Richards was supported to attend a Ministry of Defence (MOD) event by invitation. Attendance at this event led to collaboration with seven defence suppliers, three external UK universities and a partnership with national organisations, including MOD, Dstl and BAE Systems. BAE Systems have now adopted UCLan's logo as part of Human Social Science Research Capability (HSSRC) Framework. This engagement has resulted in the submission of five MOD project bids.

The operationalisation of the 'research ecosystem' (Section 1 and 2), demonstrates both institution and external collaboration. Our mentoring and support networks (Section 2) enable staff to be placed in contact with each other, facilitating the development of ideas. For example, contact made between strand leads and Research Centre members has resulted in the development of a special interest group relating to the 'Health, Performance and Medicine of Dance'. Through this internal collaboration, PGR and staff networks have instigated collaboration with universities (Northumbria

## Unit-level environment template (REF5b)

University; St Mary's University), and links to several Professional Dance Schools in the UK and internationally (Straat Ballett, Berlin). This provides an example of the connectivity of UoA24 'research ecosystem' facilitating collaboration internally, externally and with industry, resulting in the initiation of collaborative bids and building towards REF2027.

ECRs are integrated into research/ applied projects to develop collaborative skills within all projects. Allan has recently developed international collaborative links with Aspire and Aspetar, (Doha) to extend his mechanistic cellular and molecular research, working towards a greater understanding of recovery methodologies. St George is working with Delsys, (USA), a world-leading manufacturer of wireless electromyography hardware and software, and Utrecht University on standard methods of processing and analysing equine muscle activity signals for lameness assessment. Locally, Birkett has developed links with Heart Beat to continue his research on exercise prescription in cardiac patients.

### 4.2 Interdisciplinary research, partnerships and networks

Staff from UoA24 are engaged in international and national research collaborations that span the range of research disciplines. For example, an international research collaboration between UCLan, the University of Kentucky, the Swedish University of Agricultural Sciences and Nottingham Trent University, initiated the development and implementation of standards for testing equestrian surfaces. A collaborative partnership with Moscow City Government on their volunteering and social action programme, supported the preparation for FIFA 2018 World Cup from a sociological perspective. Diverse communities research emanating from the CVCL has, for example, 1) supported refugees and asylum seekers (Letters from Lesbos, Figure 6), 2) explored the conceptualisation of gender-based oppression in Zambia and 3) helped to deliver key life-skills and health messages to orphans in Morocco, amongst other projects.

Examples from tourism include collaboration between Sharpley and Wakayama University (Japan), exploring research into heritage interpretation at dark tourism sites. Additional work by Gammon in collaboration with Clemson University, South Carolina, and University of California (Berkeley) in sport tourism and heritage has resulted in collaborative research/ publications. Gammon also actively collaborates with universities in Poland, Hungary and Italy, exploring entrepreneurial practices in the industry. Stone is working with the University of Pittsburgh on projects exploring young people's experiences of dark tourism sites. Weston collaborates with numerous European partners on European funded projects focusing on tourism, and sustainable cycle routes. Finally, Jarratt has worked with UK partners, including Salford University, and on a collaborative project with an artist on seaside nostalgia.

The ICaP research community demonstrates world-class collaboration and applied work which is influencing, informing and changing practice at elite, world-class level both within sport and related domains. The ICaP community has national and international networks which support research and applied work with Olympic pathway sports (Cruickshank, Judo; Richards, Cycling, Gymnastics, Pentathlon, Judo and the English Institute of Sport). Some of ICaP's collaborators include Everton FC, Burnley FC, Salford FC (Rhodes); Saracens, WASPs, Leicester Tigers, Manchester City, Manchester United and Chelsea FC (Kiely); cricket (Grecic); Paralympic sport of canoeing (P.Richards, Taylor); elite rugby (UK and France, Grecic, Cruickshank, P.Richards); and the English FA Coach Development and UKCoaching (P.Richards). In addition to working across the performance pathway in elite sport, ICaP collaborates with and provides transferable knowledge to inform the development of expertise development in related domains. These include Fire Service and complex, technical water rescue (P.Richards); Police (Cruickshank, P.Richards); UK Army (P.Richards); Norwegian Army (Rhodes); and UK Navy (P.Richards & Sinclair).

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### 4.3 Global Research Community: Contribution and Recognition

Staff are engaged in **editorial** roles, peer review, and publication processes for a wide range of journals, including:

- J.Richards is Associate Editor for The Knee, Frontiers in Sports and Active Living and the International Journal on Multidisciplinary Approaches on Innovation.
- Sinclair is also Associate Editor for The Knee.
- Palmer is Editor in Chief for the Journal of Qualitative Research in Sports Studies, an open access journal published by UCLan.

Other editorial positions include, Frontiers in Applied Mathematics and Statistics, and Quantitative Psychology and Measurement (Filho), The Journal of Sport and Tourism (Gammon) and co-editor for Tourism Planning & Development (Sharpley). Majumdar is the executive academic editor of Soccer & Society, and Hughson is deputy academic editor of Sport in Society and Soccer & Society.

Staff are also members of editorial boards. For example, Jarratt, for the Journal of Tourism & Hospitality Research, Hobbs for Animals, J.Richards for Trends in Rehabilitation Sciences, Filho for the International Journal of Sport and Exercise Psychology and the Journal of Clinical Sport Psychology, Hughson for Cultural Sociology and Ethnography, Gammon for Theories & Application, the International Edition (TAIE), and Sharpley for the International Journal of Tourism Research, Tourism Recreation Research, Tourist Studies, and Advances in Hospitality and Tourism Research.

Staff engagement with **Committees, positional chairs and grant committees** includes:

- J.Richards reviewing grants for MRC, EPSRC, BBSRC; sat on the (NIHR) North West RfPB committee; and is an Executive board member of the Motor Control Technical Group within the International Society of Biomechanics.
- Hobbs is a Research Assessor for the Carnegie Trust, reviewing grants on an annual basis.

UoA24 staff have Visiting Professor roles, including:

- J.Richards at: Sports and Exercise Medicine Research and Education Group, University of Malaya, Malaysia; SEGi University Malaysia; Hospital University Kebangsaan Malaysia; Faculties of Medicine and Physical Therapy, Mahidol University, Thailand; Palacky University Olomouc, Czech Republic; Universidad de Granada, Spain; Sports Science, Universidad Católica de Valencia, Spain; University of Porto, Portugal; Coimbra University, Portugal and is a visiting collaborator in the School of Mechanical & Aerospace Engineering, Singapore Polytechnic, Singapore, and is a Research Advisor to the Nan Yang Academy of Sciences, Singapore
- Sharpley is a Visiting Professor at Wakayama University, Japan
- Palmer is Visiting Professor at Hunan Normal University, China
- Reeves is a Visiting Research Fellow at University of Granada, Spain
- Sinclair is a Visiting Research Fellow at Staffordshire University
- P.Richards is a Visiting Research Fellow at Glyndwr University.

**Unit-level environment template (REF5b)**

**International committees** have UoA24 staff representation:

- J.Richards joined the Executive Board of the International Society of Biomechanics' (ISB) Motor Control Technical Group in 2016. This international collaboration facilitates the sharing of professional practice and advanced the understanding/application of Motor Control, with J.Richards leading the clinical rehabilitation focus within this group.
- J.Richards also holds an Honorary Fellowship at Lancashire Teaching Hospitals NHS Foundation Trust and Wrightington, Wigan and Leigh NHS Trust.
- Hobbs is a scientific member of the FEI Footing Committee and a member of the ASTM International Committee F08 on Sports Equipment, Playing Surfaces, and Facilities.

**National and international keynotes, and invited presentations** are delivered by UoA24 members:

- Allan (ECR) was invited to speak at the International Conference of Environmental Ergonomics (ICEE, Amsterdam, 2019).
- Invited talks from J.Richards include: International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine 2019; British Association of Sport and Exercise Sciences 2018; Malaysian Orthopaedic Association 2018; Italian Society of the Knee, Arthroscopy, Sports Traumatology, Cartilage and Orthopaedic Technology 2018; American College of Sport Medicine 2016, and the International Society of Electrophysiology and Kinesiology 2016.
- Hughson's research relating to 1966 World Cup resulted in a number of keynote/ invited presentations at academic and related institutions (University of Oxford; University of Warsaw; The British Library; Senate House Library; National Football Museum).
- Hurst delivered an invited talk on head accelerations and concussion risks in mountain biking at the Cycling Science Annual Conference (France, 2018).
- Hobbs delivered a number of invited presentations on equine topics (Horse in Motion Workshop, Helsinki 2019; International Hoof Care Summit, Cincinnati, 2017).
- Melling is leading an international webinar (2020) and conference (2021) titled 'A Field of Dreams'.
- Gammon presented keynotes on Sports Tourism (Instituto Politécnico de Coimbra, 2014; IRNIST Sport Tourism Conference, 2018).
- Sharpley delivered keynotes at Belgrade International Tourism Conference (2014), the Spiritual Tourism Conference, Tehran (2016); Sustainable Tourism Congress, Acapulco (2016), 15th Annual Tourism and Hospitality Research (2019) and the 2nd Critical Tourism Asia-Pacific Conference (2020).
- Gammon has presented Managing Seasonality (Cyprus, 2015) and on Sustainable Management of Tourism Growth to the Japan Tourism Agency, (Tokyo, 2019).

**Policy contribution** is demonstrated through world-leading research and engagement:

- Hobbs was lead author on the FEI commissioned Equine Surfaces White Paper (2014), that drove the development of standards for 5\* show jumping competition surfaces.
- ITT staff (Weston and Jarratt) co-authored the 'European tourism: recent developments and future challenges' research report (2019) requested by the TRAN committee of the European

## Unit-level environment template (REF5b)

Parliament to provide an overview of the current state of affairs in European tourism that supports the sustainable development of the sector.

**Public and media engagement** has been extensive in UoA24, for example:

- Adams' research informed exhibitions by the National Football Museum and several public educational forums including the BBC 'All was quiet on the Western Front when the kickabouts started'.
- Melling's work provided the socio-political context underpinning the Channel 4 documentary presented by Clare Balding, 'When Football Banned Women'.
- Gammon was interviewed by BBC 1 and Radio 4, in relation to seaside nostalgia.
- Stone contributes to debates on dark tourism, internationally on including for the BBC, Huffington Post and CNN, radio and newspaper articles.
- Jarratt has appeared on Breakfast TV and numerous BBC radio stations, presenting his research on tourism and seaside experiences.

**Collaboration in PGR** training is supported by J.Richards with the Faculty of Physical Therapy, Mahidol University, Thailand; University of Porto, Portugal; Universidad Católica de Valencia, Spain; Universidad de Granada, Spain; and Palacky University Olomouc, Czech Republic.

## Concluding thoughts

In this UoA24 Environment Statement we have demonstrated the development of a growing interdisciplinary community of researchers. In addition to a growing portfolio of world-leading research using the criteria of REF as a proxy for 'world class' research we have evidenced the quality of outputs and impact and the increased financial profile of the UoA24.

UoA24 is built on a thriving community of interdisciplinary academics, researchers, practitioners and PGRs working collectively to solve 'real world' problems. This multinational community has facilitated the sharing of information and knowledge exchange in a transparent and ethical manner to enhance the lives of people, organisation and society as a whole, both within the UK and internationally. Such interaction has not only benefited individuals but has, in addition, informed and shaped policies and professional practices on an international scale.

UoA24 clearly demonstrates world leading research and impact. It does, however, recognise the challenges ahead with not only maintaining our research quality, but in extending existing research areas, while remaining adaptable to the new global challenges that we face. Our solid foundations are based on strong strategic leadership from senior management, combined with the desire and passion of researchers, staff and external partners, all collaboratively working together to be part of the solution for future challenges. This places UoA24 in a strong position to continue to perform the role as a world leading research community. UoA24 is equipped to transition into the next REF cycle, recognising its role in producing world leading research to enhance the lives of individuals, organisation and communities.