

Institution: University of Central Lancashire

Unit of Assessment: 26 Sport and Exercise Science, Leisure and Tourism

a. Context

During the assessment period for REF 2014 a new School of Sport, Tourism & the Outdoors (SSTO) was formed in 2011, recently bringing researchers in sport science, allied health professions, nutritional science and food safety together with researchers in the social sciences of sport and tourism. This has created an identifiable and cohesive 'home' for sport, leisure and tourism-related research and teaching within the university and led to active involvement in planning research strategies, specifically strategies for fostering research impact beyond academia. These strategies, discussed below, have developed in light of the pre-existing approach to research within the university, which is underpinned by an emphasis on making an impact on the 'real world'. The submitting UoA therefore has continued to develop a specific and unified strategy for research impact during the assessment period that draws upon an emphasis on the widest dissemination of research findings and maximising engagement with the public and cognate professional fields, combined with, where appropriate, a distinctive contribution to evidence-based practice.

The main non-academic beneficiaries and audiences for the UoA's research are individual members of the public, organisations and communities; wealth-creating businesses; health professionals and others delivering health-related professional services, and sports policy makers. As noted in REF 5, research within the UoA is organised around four broad thematic groups. Each of the research groups provides a focus and support for research / researchers in other subject areas relevant to that group. Nested within these thematic groups are a number of research institutes and centres, reflecting the development of specialist areas of expertise and research groupings. They focus on developing research with 'outward-facing' impact amongst relevant practitioners, policy makers and the wider community. The main types of impact relating to research conducted in the UoA include enhancements to creativity, culture and society; economic and commercial enterprise; the environment and quality of life, health and welfare; practitioners and practice; and policy making. The three case studies selected for this submission reflect the diversity of innovative research with impact beyond academia carried out in the UoA.

b. Approach to impact

Research within the UoA is supported by the university's overall research strategy, and thus has adopted the notion of impact in its broadest sense, whilst also seeking to deliver research that addresses specific real world problems. Research is organised around four broad thematic groups, each with professorial leads: sport and rehabilitation sciences (Richards and Selfe); sport studies and management (Horne and Hughson); sport development and coaching (Collins); and tourism (Sharpley). We aim to deliver research for enhancing and sustaining well-being, performance and health across the diverse fields of sport and tourism, as well as contribute to greater understanding of its cultural heritage, management, policy and social relevance. An integral part of the research impact strategy has been the embracing of university-wide initiatives, including cross-school supervision of postgraduate research that draws both on the strengths available within the UoA (e.g. rehabilitation science and coaching) and also with that in other schools (e.g. Forensic & Investigative Sciences). The UoA has adapted to the changing organisational structure of the university and the wider social and economic context of higher education by seeking to enhance the reach and significance of our research impacts through strategic appointments at Professorial and senior research staff level. To facilitate the successful identification and development of bidding for external research income, the UoA has been supported by the university's central Funding, Development & Support (FDS) unit. Additionally new research programmes with external partners are guided by the Innovation and Enterprise (I&E) Unit including writing contracts / letters of agreement and revenue sharing agreements, the identification of IP, Licensing and IP ownership.

Activities raising the profile of our research by maximising participation in settings appropriate to the subject disciplines that underpin sport and rehabilitation sciences and tourism include; acceptance of invitations to give keynote conference addresses, membership of leading journals and other boards, steering committees and panels, as well as membership of learned societies. During the period 2008-2013 the thematic research groups have run regular research seminar series, staged annual symposia or hosted conferences and launches of research institutes, all of which have been open to and engaged practitioners, policy makers and the public, as well as academic participants. The research groups have specifically involved non-academic audiences through developing an inter-professional approach, e.g. collaboration with hospitals and clinics in the North West of England, and staging public debates over sustainable leisure-related travel. Sport and rehabilitation science research in this period has involved working directly with over 40 small, medium and large companies to develop and test many new rehabilitation devices and equipment designed to improve function. One such project, with Harrison Spinks Ltd, supported by a Knowledge Transfer Partnership, won a Queens awards for Enterprise in Innovation in May 2013. The sport and rehabilitation science research group also runs master class events in research skills twice a year and has a research mentorship bursary scheme, open to individuals and clinical teams who work and live in the region, subsidised by the National Health Service (NHS). Coaching and performance researchers have established ongoing involvement with high level sports academies (e.g. Chelsea FC, Leicester Tigers RFC, and the Motor Sport Association), elite performers on the UK Sport World Class Performance Programme of different sports (e.g. athletics, judo) together with national (e.g. English Golf, GAA, and RFL) and international (e.g. Singapore Sports School, HPSNZ, WADA) organisations. The UoA makes use of institutional resources and the university's infrastructure more generally to enhance research impact through participation in public outreach and engagement activities, which are local, national and international in scope and significance. This has included involvement in the university's public lecture series, engagement with the Lancashire Science Festival, exhibiting at the Royal Society's Summer Science Exhibition and presenting at the Royal Institution of Great Britain. Sports at UCLan and contributions from BAE Systems, the Institute of Mechanical Engineers and British Cycling, were selected from over 500 submissions for The Royal Society's annual Summer Science Exhibition in 2013 which showcases the most exciting cutting-edge science and technology research. The exhibition had over 12,000 visitors throughout the exhibition week. Our exhibition "Engineering the Champions; Researching Athletic Success" was one of only 24 exhibits selected across all UK Universities. Of these 24 we were chosen to be one of 3 exhibits for the Royal Society to focus their media attention on.

c. Strategy and plans

The strategic development of the University of Central Lancashire as a major international hub for research and collaboration in the fields of sport and rehabilitation sciences, social sciences of sport, and tourism management and policy has a relatively recent history. Nonetheless impact and making a difference in the 'real world' is the *raison d'être* of research within the UoA. As suggested above the development of the School's strategy for supporting research impact within and beyond academia has been an iterative process during the REF 2014 assessment period. The inter-professional approach to research adopted by sport and rehabilitation sciences for example has helped inform and shape strategy in many research areas. Plans for impact are constantly being shaped and adapted to the changing demands of the external environment. To this end a Research Impact Strategy Consultation Group ('RISC') was established amongst the Professoriate associated with the UoA. RISC allows for the pooling of ideas about securing and improving impact beyond academia across the four thematic groups of the UoA. It enables the exchange and identification of opportunities for making research have impact. We believe that maintaining a flexible strategy is a process best suited to maximise the reach and significance of our impact. The approach to impact beyond academia is aimed at practitioners, policy makers and the wider community and is sustainable, supported as it is by institutional frameworks and university ambitions.

Elements of the UoA's strategy for supporting research impact beyond academia – which also

Impact template (REF3a)

includes setting objectives, developing key messages about our research capability, identifying audiences, getting them involved and measuring the success or otherwise of our strategy – include: Improving the North-West Region's and wider UK's economic competitiveness by, for example, developing and testing new and innovative products; delivering benefits to well-being, health and the quality of life more generally; and enhancing knowledge, understanding and appreciation of sport and culture, for example by bringing a largely unknown major art tradition to greater public attention.

Future *plans* for supporting research with impact beyond academia in terms of engagement with relevant audiences will be discussed and developed through the RISC Group and include: *Supporting* regional and national museums and libraries in the UK and Australia to develop in new directions with respect to their sport collections; *Developing* innovative knowledge exchange activities to involve academics, policy makers and members of the public in order to achieve impact from the benefits of research to the widest possible audiences; *Providing* expert knowledge, through for example briefings and participation in roundtables and seminars, and thus contribute to public policy groups and initiatives and guidance on strategies; *Furthering* public and professional understanding of contemporary issues in sport and tourism policy and management; *Staging* specific educational and other public events contributing to knowledge, skills and the quality of life of participants; and *Helping* to develop public understanding of the sciences associated with sport through wider public dissemination.

d. Relationship to case studies

As noted above we aim to deliver research for enhancing and sustaining well being, performance and health across the diverse fields of sport and tourism, as well as contribute to greater understanding of its cultural heritage, management and policy. This involves applied work with practitioners in sport and rehabilitation science as well as sustainable development across various aspects of sport and tourism. It also involves consideration of the relationship between sport, culture and society that aims to enhance understanding of issues related to sport and shape and inform public attitudes towards sport, as well as make a contribution to cultural and social policies associated with sport and tourism in global society.

The selected case studies demonstrate the UoA's breadth, innovation and dynamic involvement in leading research across key areas of sport and exercise science: (1) combining expertise to improve public engagement and appreciation of sports culture in museums, (2) utilising facilities to monitor and assess equipment designed to interact with the body and specifically improve lower limb rehabilitation, and (3) by utilising thermal imaging equipment and expertise, to investigate the concept of patient sub-groups and targeted intervention in musculoskeletal conditions and improve the understanding of sports injuries. In doing so the case studies demonstrate the international significance and broad reach of UoA research:

(1) Hughson has undertaken extensive knowledge exchange and consultancy work with a number of regional museums with nationally and internationally important collections that has shaped museum policy. The case study is based on world leading underpinning academic research that has validated its author as an expert adviser to the sport museum sector with regard to how museum objects are presented to the general public. (2) Richards has revolutionised research into the development of the evidence base of many clinical treatments and assessment tools. The core impact of this work has been improvements in patient care and quality of life by improving the efficacy and effectiveness in these areas with a particular focus on the advancement of conservative management and lower limb rehabilitation. (3) Selfe's research impact case study demonstrates how thermal imaging has helped to identify a 'cold' patellofemoral patient sub-group. The impact, international significance and reach of this work are evidenced by its contribution to the International Patellofemoral Pain Research Retreats and the PRICE Guidelines.