

Institution: University of Brighton

Unit of Assessment: C24 – Sport and Exercise Sciences, Leisure and Tourism

1 Unit context and structure, research and impact strategy

1.1 Context and structure

The University of Brighton (UoB) has an international profile and research tradition spanning 40 years in the interrelated fields of sport science and medicine, and the social science of sport, leisure and tourism. Our long-standing goal has been to create a multidisciplinary research environment that combines the highest quality basic and applied science with critical social science to create new knowledge with far-reaching influence, benefiting decision makers, citizens, grassroots organisations, elite sports, everyday participants, and marginalised sportspeople on global, national and local scales.

Our ambitious vision over the REF2021 period has been to build on successful REF2014 results to further strengthen our vibrant and purposeful environment by i) developing and expanding our global research profile in science/medicine, and sport and leisure cultures; ii) growing our values-based tourism, hospitality and events research; iii) expanding our partnerships to further mobilise our roles as international actors that shape research agendas and create impact globally; and iv) reinforcing our long-standing international reputation for distinctive multi-disciplinary, theoretically innovative and methodologically rigorous research on ethics, values, social justice and well-being across sport, tourism and leisure.

To deliver our vision we have invested £3.2M in our research infrastructure, especially in our four specialist and state-of-the-art laboratories (see 3.3); recruited and developed high-calibre researchers, expanding our staffing submitted to REF2021 by 50% compared to REF2014; substantially enhanced our postgraduate researcher (PGR) environment through participation as partners in two UKRI Doctoral Training Partnerships (DTPs); grown PGR completions by 75%; increased external income by 36%; and supported researchers to obtain leading positions in their fields (4.2).

Our researchers and doctoral students based in the ***School of Sport and Service Management (SaSM)*** are organised in three ***Research and Enterprise Groups (REGs)*** that span thematic fields across the UoA24 descriptor. These groups act as intellectual hubs providing the infrastructure and developmental processes to build researcher excellence:

Sport and Exercise Science and Sports Medicine (SESSM, 13.4 FTE). SESSM staff undertake basic and applied research promoting and protecting the health of top-level athletes and addressing major ethical and integrity issues facing elite international sporting competition, especially the detection of drugs using ‘omics’ technologies; the integration of intersex and transgender athletes; and the use of technology that enables athletes, including para-athletes, to better deal with the increasing demands of elite sport. This field-leading research looks to preserve equitable sporting competition and has generated important new insights and applications in a range of occupational settings, addressing significant public health issues in the process.

Sport and Leisure Cultures (SLC, 9.4 FTE). The multi-disciplinary perspectives and interdisciplinary studies of SLC researchers challenge historical orthodoxy, question gender stereotypes, critique racism in the structures and practices of sport, expose corrupt practices in sport governance, critique sport media discourse and reveal the contribution of sport and leisure to enhanced wellbeing and values-based sporting practices. SLC’s agenda-setting research has made a substantial contribution to developing new modes of intellectual enquiry, including centring race in leisure practices, and generated significant impact in developing equitable sporting practices [Impact Case Study ICS_Football4Peace].

Tourism, Hospitality and Events (THE, 7.8 FTE). We have strategically developed this third REG – a research area in which we submitted two staff in REF2014 – by recruiting new staff and

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developing our existing staff (1.2). THE produces distinctive critical research, establishing new interdisciplinary directions at the intersections of tourism studies, management and sustainable development; and members develop novel participatory, ethnographic and visual methodologies that are used to collaborate with international bodies, national and local agencies to advance sustainable tourism development in sub-Saharan Africa and Europe [ICS_Tourism].

1.2 Research and impact strategy

Our vision has been delivered through a consistent and ambitious strategy based on the five Research and Impact Strategic Goals (RISGs) below, stated in our REF2014 submission. We adjusted these goals in 2016 in response to two key UoB interventions:

- In 2016, our researchers actively shaped the new University Strategy (REF5a) that emphasises UoB values of inclusivity, sustainability and partnerships. This enabled us to successfully make the case for expanding our distinct partnership-based research in THE with its particular focus on sustainability and inclusion.
- A new UoB 2017-21 Research and Enterprise Strategic Plan (REF5a) enabled us to advance our interdisciplinary research and expand our impact activities by working with the cross-university interdisciplinary Centres of Research and Enterprise Excellence (1.5) and the Brighton Futures thematic partnership development initiative (3.2).

Our globally-driven strategy now integrates research and impact. It is managed by the School Research and Enterprise Committee (SREC 3.2), which reports on progress and successes against Key Performance Indicators (KPIs) agreed with the University. Evidence of our achievements in the five RISGs is outlined below.

1.3 Achievement of our strategic goals

RISG1: Increase investment in our REGs to strengthen their well-established multidisciplinary research excellence that influences international research agendas. Since 2015 we have grown Quality-related Research (QR) funding across the three REGs to total £2.6M and appointed seven new staff from a range of disciplines (2.1). This has further strengthened our multidisciplinary research in SESSM and SLC by the strategic deployment of QR to fund permanent talented Professors and Research Fellows (**Webborn** and **Wang** in SESSM; **Doidge** in SLC). **Webborn**, a professor in SESSM, is a world-leader of international epidemiological work on para-athlete injuries, as recognised by the award of Officer of the Order of the British Empire (OBE) in 2017 for services to Paralympic sports medicine and the British Paralympic Association (4.3). **Webborn's** recent research in the *British Journal of Sports Medicine* has shaped policies of the medical committee of the International Paralympic Committee (IPC), of which he is a member [ICS_GlobalCompetitorHealth]. **Wang**, QR-funded Research Fellow in SESSM, works with **Pitsiladis** and **Guppy** in our state-of-the-art OMICS Lab, a strategic investment in 2014 (3.3) that applies high-throughput genetic analysis to important biomedical challenges. **Pitsiladis** and **Wang** have published field-defining research on sport and exercise genomics and genetic testing in the *British Journal of Sports Medicine*, *BMC Genomics* and *Physiological Genomics*. The pioneering research of **Pitsiladis** and **Webborn** has led to their membership of the most prominent committees governing elite sport, including the International Olympic Committee (IOC) Medical and Scientific Commission, the Executive Committee of the International Sports Medicine Federation (FIMS), the Scientific and Education Commission of the European Federation of Sports Medicine Associations, the World Anti-Doping Agency (WADA) Health Medical Research Committee and List Expert Group, British Paralympic Association (Chair **Webborn**), and FIMS Scientific Commission (Chair **Pitsiladis**). In these influential positions they guide international recommendations, rules and policy for the implementation of medical care of athletes at global sporting events including Olympics and Paralympics. In SLC **Doidge**, QR-funded Principal Research Fellow, is part of a multidisciplinary social science team supported by QR to advance international research agendas through the publication of 8 REF2021-submitted monographs that challenge orthodoxies concerning social justice in sport and leisure. **Carter's** book *The Anthropology of Sport: Bodies, Borders, Biopolitics*, based on a QR funded sabbatical, is described as a 'foundational text' in a review in *Journal of Anthropological Research*. **Doidge's** book *Collective Action and Football Fandom: A Relational Sociological Approach* was identified by the

Nordic Sport Science Forum as ‘a comprehensive and sophisticated theoretical framework for studies of the culture of football supporters’. The strategic expansion of THE involved investment in two new appointments (**Lucena de Mello** and **Rakić**) and the strategic promotion of UoB talent (**Novelli**). **Rakić**’s work on visual methods was identified by Equality in Tourism International as one of the top 20 books by women academics in tourism (4.3). **Novelli** was promoted to professor in 2015, providing senior THE leadership and her research on sustainable tourism in seven African countries was recognised through an Africa Tourism Leadership Special Award (4.3).

RISG2: Optimise internal structures to provide support and gain external recognition for early and mid-career staff and deliver the Concordat to Support the Career Development of Researchers (the Research Concordat). We have enhanced support for junior and mid-career colleagues as part of the strategic strengthening of our REGs and the expansion of THE. Our staffing strategy has extended our mentoring provision for all staff, invested QR in career development and ring-fenced seed-funds for early career researchers (ECR) (2.1, 2.2). Our nurturing of early career talent was central to the expansion of THE and included supporting 6 REF2021 submitted staff to complete PhDs (2.1) subsequently published in innovative papers in leading journals, including **Jones** on tourism and the Ebola crisis in *Journal of Sustainable Tourism*. We have optimised structures (3.1) to enable junior colleagues (eg **Ford** and **Jones**) to obtain their first grants and mid-career staff to take up external leadership roles (4.2). Our strategic support and mentoring for mid-career staff (2.2) has led to high-profile external recognition. **Maxwell**’s research on environmental extremes in the *Journal of Science and Medicine in Sport* influenced the athlete-cooling strategies of England Rugby and Team GB at Tokyo 2021 [ICS_GlobalCompetitorHealth]. **Brickley** was the British Association of Sport and Exercise Sciences (BASES) Applied Practitioner of the year (4.3).

RISG3: Develop the next generation of researchers by increasing our PGR completions and enhancing the environment for Doctoral research students. We have created a vibrant and dynamic PGR environment (2.3) through three strategic activities: i) participating in two UKRI funded DTPs: the ESRC South Coast (lead: Southampton) and AHRC *technē* (lead: Royal Holloway); ii) targeting the recruitment of more full-time students; and iii) attracting additional funding for PGR studentships including a UoB investment of ~£610k and further funding from a wide range of partners such as the English Institute of Sport (EIS) (3.1). In this enhanced environment PGR completions in the REF2021 period increased to 39.33 compared to 22.5 in REF2014.

RISG4: Increase research income from international agencies, UK research councils, and charities/foundations to expand our research activity based on our distinctive research on ethics, values, social justice and well-being. We have encouraged staff to apply for research funding through mechanisms to support bid-writing including mentoring, allocation of workload time, and use of University internal sabbatical and ECR funds (2.2). Funding from international agencies, UK research councils and charities/foundations combined has increased five-fold compared to REF2014 (3.1). Funding sources that support our distinctive values-based research have been successfully targeted, enabling projects probing the ethics of competitive sport and doping (**Pitsiladis**, IOC), demonstrating the inequalities of sport and leisure provision (**Tomlinson**, ESRC; **Doidge**, British Academy; **Carter**, British Council), and promoting models of sustainable tourism development (**Novelli**, World Bank). **Pitsiladis** has produced field-changing outputs based on funded research in the *Lancet* (evolutionary mismatch hypothesis) and *Nature Communications* (genetic polymorphisms of a major biomarker of mortality and morbidity).

RISG5: Expand our international influence through increased collaborations and partnerships that deliver impact with a range of non-academic partners and users. To deliver our strategic impact ambitions we have focussed on maintaining existing partnerships, developing new international collaborations and supporting staff at all career stages to generate impact (2.2). Our three REGs, working with the cross-university Brighton Futures (REF5a) and the University Impact Manager, have funded regular workshops, fieldwork and networking events to build partnerships. We now work in partnership with over 150 non-HEI organisations in generating

Unit-level environment template (REF5b)

impact (4.1). Central to our international partnership development activities has been the use of QR funds to support Football4Peace (F4P), a vehicle for developing peace-building through sport partnerships in divided societies across four continents [3.2 and ICS_Football4Peace]. F4P, led by **Carter**, expanded existing work in Northern Ireland, Israel, and South Africa, and established new interventions in The Gambia, Colombia and South Korea. Our two other ICS involved collaborations with leading international and national partners including World Bank, Millennium Challenge Corporation, European Parliament [ICS_Tourism]; and the IPC, Team GB Tokyo 2021 and England Rugby [ICS_GlobalCompetitorHealth]. All 3 ICS are based on our distinct ethics, values, social justice and wellbeing research. Staff supported by QR seed-corn funding and mentoring have achieved significant impacts recognised by external awards. Research by **Maxwell, Richardson, Smeeton** and **Watt** on environmental extremes has changed safety guidelines and packages protecting the lives of firefighters across UK services and internationally, and **Richardson** was awarded the Institute of Fire Engineers' UK Fire Research Project of the Year 2018 (4.3).

1.4 Enabling interdisciplinary research

We have continued to appoint staff from varied science and social science backgrounds, and our REGs host workshops and seminars to stimulate innovative interdisciplinary approaches. The success of our approach is evidenced by 23 of our outputs (29.8%) in this REF submission being marked as interdisciplinary on the basis of the research approach. Researchers in all three REGs have utilised opportunities to enable interdisciplinary research provided by the budgets of UoB cross-university Centres of Research and Enterprise Excellence (1.1 and REF5a):

- SESSM's collaboration with UoB Centre for Stress and Age-Related Disease has combined the expertise of both clinically and exercise-orientated researchers resulting in papers by **Watt** and **Richardson** on exercise, diabetes and health risks across the lifespan in leading interdisciplinary journals including *Experimental Physiology* and *Journal of Diabetes Research*.
- **Novelli** with UoB Centre for Change, Entrepreneurship and Innovation Management, University of Ghana Business School and local tourism practitioners integrates arts, humanities, geography and business research generating impacts that improve livelihoods in impoverished neighbourhoods in Accra [ICS_Tourism].
- **Tomlinson** in UoB Centre for Arts and Wellbeing was Brighton lead on *What Works Culture, Sport and Wellbeing*, an ESRC-funded project that combined sociological, cultural and psychological skills from Brunel, Brighton, LSE and Winchester in systematic interdisciplinary reviews published in *BMJOpen* and *Journal of Applied Arts and Health*.

1.5 Ethics, integrity and open access

The University is committed to the Concordat on Open Research Data through its new PURE research repository developed during REF2021 period (REF5a). Advice on Open Access publishing, open data and reproducibility is provided through university workshops. Open Access compliance for this UoA since 2018 is 85%. Of the completed projects involving submitted staff for which we are able to make data available, 92% have shared data either through our Brighton Open Research repository or through an external one.

Our researchers aim to advance forms of open access by sharing data and findings with international partners and networks. **Guppy** is a founder and current member of the Steering Committee of SportRxiv, the open access subject repository for sport, exercise and health research (Society for Transparency Openness and Replication in Kinesiology). **Webborn** and **Pitsiladis** share data on Olympic and Paralympic studies with the IOC, FIMS and the IPC. Members of SESSM engage with the Open Science Framework through preprints submission.

SaSM is committed to the Concordat to Support Research Integrity, in line with the University's Codes of Practice on Research Integrity and Research Ethics (REF5a) and the appropriate ethical guidelines of professional bodies (eg Health Research Authority and the Global Code of Ethics for Tourism). The University introduced a three-tier system of ethical review in 2014, supported by a central Ethics and Governance Manager (REF5a) and managed by SaSM ethics lead (**Watt**) to

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ensure rigorous management of ethics applications and to run training workshops for staff. All our researchers gain approval for projects at university level (tier 2) and we are experienced at adopting rigorous ethical standards to undertake research with vulnerable groups including refugees (**Doidge**), victims of abuse (**Khomutova**) and racism (**Burdsey**), trafficked people (**Carter**) and para-athletes (**Webborn**).

1.6 Strategy to 2026

We have revised our RISGs to align with the UoB refreshed strategy to 2025 (REF5a). Our revised goals build on our recent successes and actively reflect the University's targets. We will concentrate on maximising our international influence on research agendas, and simultaneously responding to the COVID-19 pandemic challenges to sport, leisure and tourism. We will achieve this by continuing our staffing strategy (2.1, 2.2), mechanisms for PGR support (2.3), and commitment to equality, diversity and inclusivity (2.4).

Deliver impactful research findings to national and international stakeholders and beneficiaries.

We will:

- continue to integrate basic and applied research to shape international research agendas on athlete health and safety; responsible sport and tourism governance; firefighter safety; and fatigue, health and wellbeing.
- work with new and existing international partners and end-users to double external research income and effect research-based solutions to 'real-world' problems.

Increase our international influence by expanding our interdisciplinary research and partnerships.

We will:

- collaborate with researchers in other HEIs and external stakeholders, harnessing interdisciplinary opportunities to develop new knowledge that strategically advances our research agenda on the contribution of sport and tourism to health and wellbeing in post-COVID society.
- prioritise development of at least three large-scale interdisciplinary UKRI grant applications (one per REG) involving international partners.

Enhance our equal and inclusive research culture and develop research leaders for the future.

We will:

- increase our investment in new and early-career staff by expanding budgets for internal staff support schemes (2.1) and using workshops during UoB 'ECR Development Month' to promote international leadership opportunities (eg learned society committees).
- use equality impact audits annually to review staff recruitment, mentoring and QR support; increase participation in the UoB Leadership Programmes for female and BAME staff; and utilise our Athena SWAN action plan to address gender imbalances.
- expand and further strengthen our vibrant doctoral community by increasing our numbers of PGRs by 50% and optimising PGR recruitment to the new ESRC Brighton Sport, Leisure and Tourism pathway in the South Coast DTP (approved in 2021).

Invest in the REGs to enhance research sustainability.

We will:

- utilise the UoB's new algorithm for QR following the outcome of REF2021 that will give Schools and REGs greater autonomy in future expenditure (REF5a) to invest in our four laboratories.
- continue the expansion of THE by investing in new staff.
- fund three new joint interdisciplinary projects and PGR supervisions between our THE researchers and staff in Brighton Business School.

2. People

2.1 Staffing strategy

Staff and staff development are our top priority in expanding our research capacity and international profile, supported by £2.6M of QR allocated to SaSM based on REF2014 results. Our staffing strategy and two strategic staffing goals (SSG) have been pivotal to the 50% increase in the number of our staff submitted, the growth of the REGs and the growing volume of our work (465 outputs during REF2021 census period, an average of 15.5 per FTE). Each REG has at least one professorial member. Staff are balanced across career stages: Professor, 13.4%; Principal Lecturer/Reader/Principal Research Fellow, 50.6%; Senior Lecturer/Senior Research Fellow, 32.7%; Lecturer/Research Fellow, 3.3%.

SSG1: Grow our critical mass of researchers by recruiting talented new staff and developing existing staff to become excellent researchers. Early in the census period we invested in seven talented new staff members across our three REGs (4 male, 3 female): in SESSM, **Guppy, Wang and Ford**; in SLC, **Channon and Khomutova**; in THE, **Lucena de Mello** ECR and **Rakić**. New appointments are introduced to the research culture through induction and membership of a REG, allocated a mentor, encouraged to apply for ring-fenced funds (2.2) and given reduced administration loads to enable publication. The new researchers strengthen the quality and dynamism of each REG with their pioneering research, including **Ford** in SESSM on perceptual-cognitive skill training, and **Channon and Khomutova** in SLC on sexual identities and martial arts. Twelve existing staff not submitted to REF 2014 have been supported to advance their research skills to publish in high-quality publications and generate impact, enabled by QR funding for research release, conference presentation and writing-up of publications (2.2). Six of these existing staff were early in their careers, having been recruited from relevant industry backgrounds, and are now enhancing our research outputs after UoB support to complete PhDs (**Jarvis, Jones, Lucena de Mello, McEnnis, Pantelidis and Williams**). They have subsequently produced novel publications including **Williams's** netnographic scrutiny of rock concerts in *Leisure Studies* and **McEnnis** on sports blogging in *Journalism Practice*.

SSG2: Retain and reward researchers at all levels of their careers. To ensure the development and sustainability of our research environment we follow a policy of nurturing and rewarding our researchers. As part of longer-term succession planning, we recognise staff for their intellectual leadership profiles (eg **Burdsey, Carter, Maxwell**, and **Smeeton** promoted to Reader and **Novelli** to Professor). Staff wishing to apply for promotion are allocated a mentor to advise on their application and attend promotion workshops. Of the 32 submitted staff, 17 (10 male, 7 female) were promoted during REF2021 including **Weeden, Beale, Dekerle, Rakić, McEnnis, Gilchrist** and **Guppy** to Principal Lecturer. We seek to retain and develop our staff by providing leadership opportunities. REG leaders are non-professorial staff to prepare for more senior roles (**Watt, Carter and Rakić**). We strive to minimise the use of fixed-term contracts and 97% of submitted staff have permanent contracts. With a staffing profile balanced across all career stages we have recognised and retained a generation of emerging and established researchers with the skills to sustain positions of leadership and responsibility in future.

2.2 Staff development

Strategies to support the career development of ECRs and PGRs have been significantly strengthened and embedded in SaSM and across the University, in line with UoB's Research Concordat Implementation, Athena SWAN and Race Equality Charter action plans (REF5a). This includes all staff having a contract minimum of 20% of time for research, an annual staff development review to identify research objectives and from 2020 providing researchers with 10 days per year of professional development. We utilise four main forms of intervention to support staff development from ECR to the Professorial level:

Stimulating research excellence and international profile through internal University funding initiatives. The UoB Sabbatical scheme, Rising Stars (ECR), Innovation Fund, Impact

Unit-level environment template (REF5b)

Development Fund and GCRF/QR interdisciplinary awards are competitive schemes funded by central UoB QR (REF 5a). Our ECR and mid-career staff have been successfully mentored by senior researchers to apply and over 40% of staff have won support from these initiatives. The 15 projects awarded to our researchers (11 male, 4 female) amounted to £142,610 over the REF2021 period. Successful outcomes increasing our high-quality publications and international profile for distinct social justice research included **Burdsey**'s interdisciplinary monograph *Race, Place and the Seaside: Postcards from the Edge*, supported by a sabbatical and described in the *Oxford Institute of Population Ageing Journal* as 'a ground-breaking book'. **Carter**'s use of GCRF/QR funds to develop new partnerships in Colombia directly underpins research and impact described in [ICS_Football4Peace]. **Novelli**'s support from the Innovation Fund developed new theoretically and empirically grounded knowledge on overtourism published in the *Journal of Sustainable Tourism* and created impact through work for the European Parliament and Airbnb [ICS_Tourism]. Rising Stars funds led to novel insights on ethics and power in unregulated combat sports by **Channon** in *International Review for the Sociology of Sport*.

Supporting the career trajectories of ECRs and Postdoctoral Research Fellows (PDRFs).

Early career development at UoB is central to the goals of the Research Concordat and ECRs are represented within all levels of research governance. The University-wide ECR support scheme provides a comprehensive training programme for ECRs and a biennial Futures Bright conference with career development workshops (REF5a). ECRs in SaSM are given no significant administrative responsibility during the first 2 years in post and paired with established supervisors to enable mentored PGR supervision. Recent and current ECRs in this submission (**Channon, Doidge, Khomutova, Lucena de Mello, Pantelidis, Williams**) have contributed to our research excellence and international reputation through support from the UoB ECR programme, and SaSM QR funding for conference presentation, release from teaching, and research administrative support. **Khomutova**, funded by ECR funds (2.2), developed new insights into athlete migration from the Western Sahara to Scandinavia in *International Journal of Sport and Exercise Psychology*. All PDRFs receive tailored research career development mentoring and teaching opportunities to expand their portfolios. **Doidge** was the 0.2 FTE University ECR ambassador 2015-16 developing ECR activities, organising an ECR Network and sitting on all University-level research committees.

Mentoring staff for research excellence and new knowledge generation. In 2016, UoB established a research mentoring framework and commissioned mentor training from leading external agency, KMP+ House of Mentoring (Copenhagen). To deliver this framework in SaSM, **Burdsey** is School Research Mentoring Lead and manages mentoring pairing, so all staff who request it can access one-to-one guidance on funding proposals, publications and career progression. Twenty of our submitted staff have benefited from the mentoring scheme. Successful outcomes include advances in urban parkour research (**Gilchrist** in *Leisure Studies*) and novel insights on sustainability, ethics and cruising (**Weeden** in *Hospitality and Society*).

Stimulating innovation through transparently re-investing QR. Our research quality lies in the talent our researchers, and the funding from our REF2014 success has been re-invested in staff at all career stages. The UoB has a fully transparent process for allocating QR funds and streams nearly two-thirds of QR income directly to schools. A review by UKRI selected this as an example of good practice (REF5a). Spending decisions are made by our SREC, which includes staff at all career stages, PGRs and REG leads. QR allocated by the SREC has been invested in three key staff development initiatives to which researchers submit funding bids, resulting in achievements linked to our distinctive international research on ethics, values, social justice and wellbeing:

- **ECR ring-fenced support:** ~£20,000pa for awards to support expansion of doctoral and post-doctoral research including ECR **Lucena De Mello**'s paper on gay and lesbian partnered family travel and wellbeing in *Annals of Leisure Research*.
- **PGR support:** ~£28,000pa for PGR national and international conference presentations, and career development (2.3 details beneficiaries developing career skills in Brazil, Bali and Sweden).

- **SASM Research Development Fund:** ~£20,000pa funds support staff returning from parental leave, staff buyout and pump-priming, including networking, specialist laboratory needs, away days, and grant-writing workshops; **Giannopoulou** received support for research into non-exercise and binge eating published in the leading journal *Nutrients*.

2.3 Research students

2.3.1. PGR recruitment and progression

Providing and sustaining a supportive, vibrant, and academically stimulating research environment for our PGR students is key to achieving our strategic research and impact goals. Our involvement in the ESRC SCDTP since 2017 and AHRC *technē* DTP since 2014 further enhances our high-quality PGR environment along with University and SaSM support for PGR professional futures and the training of supervisors. All PGRs are registered with the Brighton Doctoral College (BDC), which oversees the application-to-graduation process for all students with school management by the SaSM PGR Coordinator (**Dekerle**). Our enhanced support for PGRs (2.3.2) has increased annual PGR completions (see Table 1). During the REF2021 period 44 students supervised by our researchers completed doctorates which, represented by FTE supervisory input, totals 39.33, a 75% increase on REF2014.

In 2013 we were reliant on self-funded part-time students and full-time students comprised only 16% of our student community. To support a more vibrant PGR environment we have targeted the recruitment of full-time funded students so that by 2020 40% of our PGRs are full-time. We have recruited a full-time AHRC Capacity-building award student (**Tomlinson**) and 5 students to full-time DTP studentships supervised by our researchers, comprising AHRC DTP *technē* studentships (**Tomlinson, Carter**) and ESRC South Coast DTP studentships (**Gilchrist, Burdsey, Novelli**). The new Brighton Sport, Leisure and Tourism pathway approved in 2021 by ESRC for incorporation in the South-Coast DTP and *technē*'s success in securing funding of £18 million for a further five cohorts starting in 2019 provide major opportunities to expand our involvement in DTPs. Since 2013 UoB has also invested in 9 SaSM PGR studentships linked to each of our REGs and a further 5 studentships are fully supported by external funders (Savoy Educational Trust x2, Saudi Arabian government, Iraqi government, and East Sussex Health Care Trust). Part funding of up to 50% of the costs of full-time studentships has been received from international and national bodies including Tackle Africa, British Swimming, EIS, the European Community, the American Institute of Bisexuality, Kaatsu Limited, Wilderness Safaris and the Canadian Social Science and Humanities Research Council. These diverse forms of funding demonstrate the global profile of our PhD environment. In our recruitment to full-time studentships we have actively encouraged applicants from a range of backgrounds so that 50% of our 31 ongoing PGR students are female compared to 39% in 2013 and 19% identify as BAME compared to 15%.

Table 1: PhD awards by year (2019/20 affected by COVID-19 see REF5a, Professional Doctorates not offered in UoA, fractions reflect cross-school supervision).

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Conferrals	2.00	2.50	4.50	10.00	5.00	9.17	6.17	39.33

2.3.2. PGR support and skills development

SaSM has responded actively to the expansion of full-time PGRs, ensuring they all have personal desk spaces shared across spacious accommodation in its four laboratories and study suites. PGR induction includes introduction to doctoral processes, milestones and REGs; and to the University's wider research environment and wellbeing services, including a dedicated PGR counsellor. Annual Progress Review meetings provide a rigorous monitoring process including objective review by experienced researchers outside the supervisory team. Mentors (2.2) support staff to become supervisors by undertaking the BDC supervisor training course and all supervisors must undergo refresher training every three years. PGR students are embedded within SaSM

Unit-level environment template (REF5b)

governance structures: elected PGR representatives sit on the SREC and REG management groups, and play an influential role in organising REG seminar series involving international speakers. SaSM QR (2.2) provides PGR funding for laboratory work, fieldwork, networking, and to present at least one national and one international conference. Recently, our students have presented at major international conferences such as the 35th FIMS World Congress of Sports Medicine (Rio de Janeiro) and the European College of Sport Science (Prague).

PGR career and skill development is supported by BDC workshops and the annual UoB Postgraduate Research Festival. PGRs complete an annual Training Needs Analysis and the BDC provides formal training through a comprehensive Postgraduate Research Development Programme (PRDP) (REF5a). Our PGRs also benefit from the BDC subscription to University of East Anglia Online Training. The University provides accredited training mandatory for those PGRs who teach. Under COVID-19, BDC worked to ensure that all doctoral students have continuity of support through the crisis. Specific measures included: additional stipend payments and fee-waivers of up to six months for all students disrupted by COVID-19 in their final year which went beyond UKRI requirements; a Doctoral Resources Fund to purchase items to facilitate remote working. This provision was recognised by two awards to the BDC from the University Alliance, for professionalism and integrity.

In SaSM we offer a teaching scheme open to all PhD students that each year funds 6 part-time teaching instructors and 6 hourly-paid lecturer contracts. We encourage our PGRs to establish and lead initiatives in external scholarly networks, for example the 2021 British Sociological Association's Postgraduate Regional Forum led by THE and SLC PGRs planned for March 2020, held online a year later. Our PGRs are supported in developing skills for careers beyond academia through UK placements and SaSM QR funding to collaborate on international impact activities with staff. Recent PGR placements include Wilderness Safaris Africa, Brighton & Hove Albion FC and, on altitude acclimatisation, Mount Chacaltaya, Bolivia. Research students and supervisors (leads named) have been supported through QR (2.2) to develop skills, working with research beneficiaries in Rio de Janeiro favelas to increase community safety (**Carter**); among communities in Bali to involve more local residents in community-based tourism (**Novelli**); with Syrian Muslim refugee women in Sweden to integrate them within the host community (**Burdsey**); and alongside practitioners in the World Olympians Association-funded study on the rehabilitation of Olympians (**Pitsiladis**). **Maxwell** was awarded an EIS studentship for a PGR to work with Olympian Sir Mo Farah before the 2016 Rio Olympics.

The career destinations of our PGRs demonstrate that our support strategies are working. Since 2014, 10 PhD students have gained academic positions in UK universities and 14 employment in the sport industry including commercial director at a Danish Superliga football club.

2.4 Equality and diversity and inclusion (EDI)

UoB is one of only 17 HEIs to hold a Bronze Race Equality Charter, is a Disability Confident Level 2 employer, holds Athena SWAN institutional Bronze, and, in its latest submission, was in the Stonewall Top 100 (REF5a). SaSM achieved a Bronze Award from the Athena SWAN Charter in 2019. The charter's principles are embedded in our research community and approach; and its equitable, open and transparent processes are now overseen by a School Equality & Diversity Committee (**Giannopoulou** lead) reporting to the School Management Group.

Aligning with the UoB institutional policy we pursue EDI goals through our SaSM Athena SWAN Action Plan, and via our future research and impact goals (1.5). These are designed to address our current gender imbalance. In REF2021 23% of submitted staff are female, compared to the Advance HE sector average for the subject area of 37%. Key leadership roles in SaSM are now occupied by females: **Novelli**, as Professor and Brighton Futures lead; **Dekerle**, as Postgraduate Research Co-ordinator; **Weeden** and then **Rakić** as leader of THE; **Giannopoulou** as EDI officer. Consistent with UoB REF2021 Code of Practice, EDI factors were central to the preparation of this submission. The Output Review Panel and Unit of Assessment Leadership team undertook unconscious bias training and calibration exercises to ensure judgements were consistently

Unit-level environment template (REF5b)

applied. Our REF2021 submitted staff reflect our international profile and comprise researchers with diverse heritage from Greece, Italy, France, Germany, Ukraine, Brazil, China, Canada, and the USA. In future we will continue to recruit research talent from a wide range of backgrounds. We are also committed to nurturing a diverse international community involved in our research through our impact activities involving extensive international networks of partners (1.2). Our commitment to the UoB Race Equality Charter Action Plan is managed by **Burdsey** as a member of the UoB race equality group; and the UoB runs workshops, seminars and support groups on race allyship and equality.

SaSM promotes the University's employment protocols, with all staff involved in the recruitment process required to complete equality and diversity, and unconscious bias training. Senior SaSM staff have undertaken additional workshops on unconscious bias run by the Advance HE Equality Challenge Unit. We work to minimise the use of fixed-term contracts (2.1), offering redeployment if posts cannot be made permanent. All central research initiatives (2.2) have been monitored via annual Equality Impact Assessments (EIA) since 2017 and the SREC monitors the allocation of SaSM QR research development funds. University promotions and staff policies reward both research and impact performance, and ensure that career progression is not disadvantaged by absence or disruption (REF5a). We adjusted the SaSM laboratory environment for a disabled member of staff and 13.1% of REF2021 submitted staff have a disability declared above the Advance HE sector average for the subject area of 4.3%.

3. Income, infrastructure and facilities

3.1 Strategies for income generation and achievements

Developing a balanced portfolio of external income has been central to achieving our research and impact goals and ensuring the sustainability of our impactful research. We took strategic actions to reduce our over-reliance on UK/EU government funding sources that accounted for 62% of grant spend in REF 2014 and to gain more funding from international bodies. Working through our REGs, using QR funds and supported by mentoring (2.1), we have encouraged staff to apply to a wider range of funding sources, targeting international agencies, research councils and charities in keeping with our research and impact strategy (RSIG4 1.2). UoB's Research, Enterprise and Social Partnerships team (RESP) provides expertise on grant application and bid proposals. RESP manages an internal peer review panel drawing on staff with successful track records in grant-winning and/or research council reviewing that we have utilised to diversify our funding sources. This strategy has contributed to a sustained record of securing competitive funding, embracing all REGs and staff at all career stages.

Grant spend of £1,360,048 for the census period represents an increase of 37% compared to REF2014 and an average of £45,035 per FTE. In the first year of REF2014 grant spend was £113,847 and by 2018-19 this had risen to £340,663 from six funding sources. Our targeting of funding from international agencies was particularly successful and 45% of grant spend in the REF period came from Non-EU/Non-UK sources.

UK Research Council funding has been secured in a range of grants from large consortia reviewing major fields to smaller networks developing new research areas. These have included: **Tomlinson** working with Brunel and LSE on Culture, Sport and Wellbeing, and Culture, Sport and Communities (ESRC £1.2million, £208,102 to Brighton see 1.3); Medical Research Council (MRC £24,714) funding for **Smeeton**'s work on a unified mechanism for functional neurological symptoms; and ESRC research networks on international volunteering and lifestyle sport. Research council grant spend rose to £297,678 in this submission having totalled £92,095 in REF2014.

International governing bodies of sport have been targeted for funding in order to create policy impact through our pioneering research on the health and safety of sporting events and competitors in the Olympics and the Paralympics. Grants for **Pitsiladis** have totalled more than £500,000 for research that protects the health of top-level athletes and preserves equitable

Unit-level environment template (REF5b)

sporting competition funded by international bodies such as the IOC, WADA, and FIMS. **Webborn** has gained IPC funding for novel work on shoulder-injury prevention.

International non-government organisations (INGOs) income includes a Millennium Challenge Corporation /Abt International award of £49,267 to **Novelli** for research on the impact of international tourism development in Namibia. The Gambia Ministry of Trade/World Bank awarded **Novelli** £48,600 for the evaluation of the tourism impacts of World Bank interventions.

Industrial funding has come from diverse bodies, including £56,000 from the Fire Brigades Union, the Fire Service Trust and Firefit for **Richardson's** work on firefighter safety; and £15,000 from The Football Association to **Ford** for research into football skills development.

Charities, foundations and professional bodies have funded staff at all career stages for personal projects embodying our values-driven research. These include a British Council grant of £20,000 to **Carter** on sport and soft power; a British Academy ECR Rising Stars Engagement Award (£14,966) to **Doidge** studying refugees and football and a Wellcome Trust grant (£11,109) to study sport and health; and a British Association of Sport and Exercise Medicine (BASEM) bursary to **Webborn** and **Smeeton** for work on sensitivity to exercise in children with Autistic Spectrum Disorder.

UK Government via Innovate UK and the Department of Trade and Industry funded Knowledge Transfer Partnerships (£131,000), including a multi-disciplinary project enabling **Jones** early in career to work with private business to develop the first formalised coaching framework for BMX freestyle.

3.2 Organisational and scholarly infrastructure

The SaSM research and impact infrastructure is managed by the SREC which implements the research and impact strategy (1.2). Chaired by **Burdsey** as Deputy Head of School (Research and Enterprise), SREC has inclusive membership in terms of gender and career stage, and comprises the Head of School, REG leads, ECR, PDRF and PGR representatives. The SREC provides a platform for supporting the distinctive research of the REGs (1.2) by administering QR funds devolved to Schools, monitoring laboratory investment, and managing research integrity, researcher development and local delivery of the Research Concordat.

We strategically invested ~£35,000pa QR in SaSM impact and enterprise infrastructure. This included a 0.5FTE F4P administrator to build on our REF2014 ICS described in panel C26 feedback as '*outstanding in terms of reach and significance*'. The F4P initiative (1.2) represents a highly distinct organisational platform promoting values-based coaching, enabling worldwide access to our research-led F4P methodology and providing a facility for the adoption of our peace-building model [ICS_Football4Peace]. The administrator has supported 7 staff during the REF2021 period to work across 6 countries, benefitting 532 coaches/volunteers and 4,699 young people [ICS_Football4Peace]. **Sugden** and **Tomlinson's** monograph *Sport and Peace-Building in Divided Societies* presents the context to our F4P impact and strengthens our pathways to impact, described in a review in the *International Journal of Sport Policy and Politics* as '*valuable to researchers, practitioners and academics*' alike.

The cross-university Brighton Futures thematic initiative represents a strategic UoB investment in organisational infrastructure to grow external partnerships (1.3 and REF5a). **Novelli** is a Brighton Futures lead and has fostered collaborative research and network-building with partners in Kenya, Ghana, South Africa, Tanzania, Namibia and Rwanda. This has established pathways to policies for community-led sustainable tourist development in Africa [ICS_Tourism]). **Watt** has contributed to a *Healthy Futures* network that enabled industrial partners, sports participants and charities to benefit from use of our extreme environments laboratory (EEL) including Cross Bridge Scientific Ltd to develop thermoregulation devices, the Para Monte Adam Savory Memorial Fund Altitude Awareness, and athletes from club to Olympic level [ICS_GlobalCompetitorHealth].

3.3 Investment in specialist laboratories and facilities

The SESSM research environment has benefited from more than £861,000 of new UoB investment in laboratories during the REF census period. The four specialist SESSM laboratories – Fatigue and Exercise Tolerance (FET), Exercise and Cognitive Neuro-Science (EXCeL), Environmental Extremes (EEL), and OMICS – are central to the production of our high-quality research and its impact-generating outcomes, including those linked to Olympic and Paralympic sport [ICS_GlobalCompetitorHealth]. EXCeL was refitted in 2019 to advance work on psychological and physiological connectivities and new eye-tracking equipment was purchased to support interdisciplinary research projects. FET benefited significantly from air conditioning to upgrade biochemistry analysis and the installation in 2019 on the SaSM campus of a new gymnasium, conditioning and pool-based equipment providing high-quality facilities for specialist studies. Investments in the EXCeL laboratory include an immersive screen (IGLOO) and hardware for interactive immersive sport and exercise simulations; a remote temperature measuring device (iButtons) for environmental extremes research; the update of the environmental chamber and servicing for the facility; actigraphs for remote monitoring in free-living situations and the measurement of activity using wearable technology; and a Siemens S3000 ultrasound shear-wave elastograph supporting innovative research into tendon injuries building evidence-based approaches to rehabilitation and injury recovery.

SESSM received significant funding from central UoB sources, including Research Capital Investment Funds, to support innovative molecular research and £212,500 to equip the OMICS lab in 2014/15. The OMICS laboratory, utilising advanced high throughput state-of-the-art molecular methods, has been instrumental in **Pitsiladis** attracting over £500,000 external research funding during the census period into the 'OMICS' of drug detection and response to training (including altitude training). The international standing of the 'OMICS' lab and its high-profile research outputs has attracted significant external investment in new cutting-edge analytical approaches for demonstrations, training and research. Two key examples include the genome sequencer (DNBSEQ-G400RS from BGI, Shenzhen, China) and the gene microarray scanner (GeneChip Scanner 3000 from Affymetrix, Thermo Fisher Scientific, Santa Clara, CA, USA); combined value over £500,000.

Recently all staff benefitted from £24,000 of QR funding in 2020 that enabled the formation of the Creative Methods Suite providing technologies for socially distanced fieldwork in continuing and (post)-COVID circumstances.

3.4 Collaborations and sharing research infrastructure

Reciprocity of access to facilities with academic colleagues, PGRs and practice-based partners is an important principle within our research ethos. The research environment is shared via international networks, visiting scholars, professional associations, sports participants and industry partners (see 3.1). We share our facilities to build capacity in other countries especially in the Global South, and have established strong relationships with collaborators in South America, North America, Africa and Europe. The OMICS Laboratory has hosted staff from Waseda University, Japan for a 12-month visit supported by Japan's Ministry of Education, Culture, Sports, Science and Technology; and a WADA and IOC-funded PGR from the Italian University of Sport 'Foro Italico' to work with **Pitsiladis** and **Guppy** on new anti-doping approaches for implementation at the Olympics. Facilities in the EEL have been made available to industry partners (eg British Airways) and athletes for pre-competition preparation, including Marathon des Sables runners annually who all completed the event in the Sahara/Morocco, none incurring heat-related illness.

Interdisciplinary collaborations have been developed with visiting scholars including research fellows and professors from Brazil, Finland, France, Germany, Iceland, Spain and the USA (eg Prof. Jules Boykoff from Pacific University, USA; and currently Dr Anna Kavoura, funded by the Finnish Cultural Foundation to work on the *Transforming gender boundaries in sport* project).

We have enabled our researchers to access national and international off-site specialist infrastructure. **Tomlinson** was supported by QR funds to access archives at the National Football

Unit-level environment template (REF5b)

Museum, the FA, UEFA and FIFA enabling production of the monograph *Sir Stanley Rous and the Growth of World Football*, called by author and journalist David Conn a 'superb football history book'. **Pitsiladis** has been supported jointly by QR and funding from WADA, the IOC and industry to work on successful collaborations in South Africa, Kenya, and Ethiopia focused on the genetic makeup of elite athletes, detection of drugs in sport, responses to training at altitude and the use of wearables to quantify training and recovery.

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

Our researchers stage field-shaping events and processes stimulating innovative thinking, establishing extensive collaborations with stakeholders and academic partners. Our researchers have presented 66 keynote addresses at international conferences and our researchers hold more than 40 editorships and editorial board memberships. These activities and connections have enabled us to engage with a global research community, shape ethical sport and sustainable tourism research agendas, and provide new opportunities for our academic researchers and PGRs to influence key social and economic challenges.

4.1 Collaborations with academic colleagues, research users and non-academic beneficiaries (NABs)

Establishing and sustaining academic collaboration is critical to the vibrancy of our research. We do this via joint research; our presence at international conferences; our own Brighton-based events (4.3); and an international profile that has been established through joint projects with researchers in, for example, France, Germany, Italy, Brazil, China, South Korea, Australia, New Zealand, Canada, the USA, the Gambia, Greece, Portugal, South Africa. **Pitsiladis**, from the base of the OMICS laboratory, has collaborated with an international network of 26 research laboratories worldwide, sharing a mission to promote best practice sport medicine principles for athlete care and active living. **Wang** as a SESSM PDRF has also participated in these networks. **Pitsiladis** holds visiting professorial positions at the University of Cape Town and the University of Rome 'Foro Italico', facilitating worldwide networks of research on Olympics-related sport integrity issues. **Burdsey** is visiting associate professor at the University of Toronto. **Novelli** holds a professorial position at Università Tor Vergata, Rome. **Webbhorn** is Honorary Clinical Professor at Loughborough University; and in collaboration with international peers and through the IPC's Medical Committee, has conducted studies with fellow scientists at universities including Harvard, Stellenbosch, Uppsala and Ottawa, establishing unique databases on the epidemiology of para-athlete injury and illness.

Developing and cementing co-operation with NABs has been a consistent goal. Overall, our researchers have worked in partnership with more than 150 NABs from 22 countries, from international organisations such as IOC, IPC and World Bank (see 1.2) to NGOs central to our ICS in each of The Gambia, Colombia, and South Korea. In the UK **Doidge** works with local NGOs and grassroots organisations concerning anti-discrimination, inclusion and support for refugees (eg Sanctuary on Sea, Sussex County FA and Amnesty International). Supported by the University's COVID-19 urgency fund, **Richardson** works with 8 UK health trusts investigating the effects of remote exercise rehabilitation and monitoring on recovery from critical care in COVID-19 sufferers.

4.2 Contributions to disciplines and professional bodies

Through mentoring and QR funding (2.1) we support all staff to become active in their professional fields, contributing to discipline-based, multi-disciplinary, and interdisciplinary professional associations across the sport and exercise sciences, sport, leisure and tourism

Journal positions: Seventeen researchers across our 3 REGs and at all career stages have held editorial positions, including:

- SESSM: **Brickley**, editorial board, *Journal of Science and Medicine in Sports*; **Giannopoulou**, editorial board review member, *Frontiers of Nutrition*; **Maxwell**, editorial board, *Frontiers in Physiology*; **Pitsiladis**, Associate Editor, *British Journal of Sports Medicine*, *Current Sports Medicine Reports*, editorial board/scientific committee, *Medicina*

Dello Sport, Apunts Medicina de l'Esport; **Smeeton**, Consulting Editor, *Human Movement Science*; **Watt**, editorial boards, *Physiology Journal*, *International Journal of Molecular Sciences*; **Webborn**, Associate Editor, *British Journal of Sports Medicine*.

- SLC: **Burdsey**, Associate Editor, *Sociology of Sport Journal*; **Carter**, editorial board *International Review for the Sociology of Sport*; **Channon**, editorial board, *Sociology of Sport Journal*; **Doidge**, *Frontiers in Sports and Active Living* (editorial board review member); **Tomlinson**, Associate Editor, *Theory, Culture & Society*.
- THE: **Weeden** (editor-in-chief), ECR **Lucena de Mello** and **Pantelidis** (co-editors), *Tourism and Hospitality Research*; **Merkel**, editorial board, *Asian Journal for the History and Culture of Sport*; **Novelli**, co-editor, *Tourism, Planning & Development*, editorial board, *Documenti Geografici*; **Rakić**, editorial board, *Finnish Journal of Tourism Research*.

Professional bodies: Seventeen researchers have been supported to develop responsibilities and leadership roles in 23 professional bodies across a range of disciplines, enabling us to provide intellectual leadership and influence research activities across the main fields of the UoA24 descriptor, including:

- SESSM: **Webborn** (IPC Medical Commission) and **Pitsiladis** (IOC Medical and Scientific Commission) hold leading positions on scientific committees shaping global governance and scientifically-based policy responses including to COVID-19. **Webborn** is Chair of the British Paralympic Association and sits on the Prohibited List Expert Group of WADA; **Maxwell** is on BASEM's steering committee of the Special Interest Group on COVID-19, **Brickley** on its Accreditation Committee. **Smeeton** is chair, and **Ford** secretary, of the Expertise and Skill Acquisition Network. **Watt** represents the University of Brighton at the Physiological Society.
- SLC: **Channon** is on the special advisory group of UNESCO's international centre for martial arts and youth engagement. **Doidge** and **Tomlinson** convene, respectively, the British Sociological Association's Sociology of Sport, and Leisure and Recreation, study groups. **Gilchrist** is founder of the Sport and Politics interest group of the Political Studies Association. **Khomutova**, was on the safeguarding review panel of England Boxing.
- THE: **Novelli** is a board member of the West Africa Tourism Organisation. **Pantelidis** chairs the Council for Hospitality Membership. **Rakić** is honorary secretary of the Royal Geographical Society's Geographies of Leisure and Tourism research group. **Weeden** is co-chair of the Association for Tourism in Higher Education.

Reviewing for councils/foundations: Twelve researchers have reviewed for research councils and grant-awarding bodies in the UK and beyond. These include four research councils AHRC/BBSRC/ESRC/MRC (**Burdsey**, **Carter**, **Channon**, **Doidge** [AHRC Peer Review College], **Novelli**, **Pitsiladis**, **Tomlinson**); the Wellcome Trust/Leverhulme Foundation (**Wang**, **Watt**); the European Commission (**Giannopoulou**); and the Multiple Sclerosis Society (**Maxwell**). Reviews have been provided for research councils in Australia, Belgium, Canada, Denmark, Germany, Hungary, Norway, Poland and Portugal.

4.3 Awards and recognition of contributions

Our research and impact have been recognised by high-prestige awards nationally and internationally, reflecting the academic pedigree and quality of research in all our REGs.

- **Webborn** was made Officer of the Order of the British Empire (OBE) in the Queen's Birthday Honours List June 2017, for services to Paralympic Sports Medicine and the British Paralympic Association; and named in the Shaw Trust Power 100 (listing Britain's most influential disabled people) for three consecutive years, 2015-17.
- **Novelli** received a special award for her Contribution to Sustainable Tourism Development in Africa at the 1st African Leadership Forum in Ghana, August 2018.
- **Tomlinson** and **Sugden** are 2 of only 3 UK scholars made Research Fellows of the North American Society for the Sociology of Sport (NASSS) at the inauguration of the award in November 2017.

- **Pitsiladis** received the Green Pass Award in the European Final of the 2019 China (Jinan) New Kinetic International Talent Innovation and Entrepreneurship Competition, Hamburg, Germany.
- **Rakić**'s co-edited volume *An Introduction to Visual Research Methods in Tourism* was listed by Equality in Tourism International (2018) in the top 20 books by women academics to have changed tourism research.
- **Brickley** was named Applied Practitioner of the Year 2019 by the British Association of Sport and Exercise Science (BASES) and awarded a BASES Fellowship in 2016.
- **Richardson** won the Institute of Fire Engineers' UK Fire Research Project of the Year, 2018.
- **Wang** won a Poster Award for Excellence (2017) at the Next Generation Sequencing Conference, Glasgow.

4.4 Wider influence and contributions to the research base

Responding to priorities: Our local and global research agendas respond to international societal priorities. In SESSM, **Webborn** and **Pitsiladis** have developed research programmes embedded in the policy needs and priorities of the IPC and the IOC (1.2). **Richardson** has extended the work of the Environmental Extremes Laboratory to answer the needs of fire services across the world by influencing policy on fire exposure limits, preparation, recovery, and delivering a unique firefighter health educational platform. **Watt**, **Maxwell** and **Hayes** have developed work on heat acclimation for a wide range of users in sport/exercise [ICS_GlobalCompetitorHealth]. In THE and SLC critical qualitative analyses of sport and tourism have tackled issues of access, participation, inequality and social division, promoting sustainable tourism policies in African communities, and values-based sport coaching for divided communities. **Doidge** and **Carter** share Brighton's F4P research with European partners from the Czech Republic (Palecky University) and Germany (Paderborn University) in the Erasmus+ network, *Global Sport for Development and Peace Knowledge Collaboration Programme*.

Events: We promote vitality through critical debate and professional dialogue on the nature of our disciplines and interdisciplinary fields, staging events and engaging in networks that create and sustain collaborative partnerships and outcomes. THE researchers organised the conference *Contemporary Perspectives in Tourism and Hospitality Research: Policy, Practice and Performance* (2015, ~100 attendees) in collaboration with the Regional Studies Association and hosted the *Association for Tourism in Higher Education's* 24th annual conference (2017). SLC's conference on Sport and Social Justice (September 2013) combined practitioners and researchers, identifying key issues of equality and access. The symposium *Transforming Sport: Engaging Critical Proactivism in Sport Research* (2018) brought together leading global academics and researchers in interconnected fields and was held alongside the publication of *Transforming Sport: Knowledges, Practices, Structures* (eds. **Carter**, **Burdsey** and **Doidge**, contributions from 16 current and former SLC researchers, PGRs and visiting scholars). Under COVID-19, **Khomutova** led the online 2020 Global Sport Research Conference on edgework and risk-taking in sport, in partnership with Arizona State University's Global Sport Institute. SESSM researchers contribute regularly to the conferences of professional associations, for example the *FIMS World Sports Medicine Congress*, the *IOC World Congress in Sports Medicine, Wearable Technologies*, and national events organised by BASEM, as well as collective breakthroughs such as the *Olympia Declaration* (**Pitsiladis**) and a position paper highlighting the main sport integrity issues facing Olympic/Paralympic sport. **Smeeton**, as Chair of the Expertise and Skill Acquisition Network, brings together 100 delegates biannually, including researchers, coaches, performance analysts, sports directors and athletes for discussions promoting research advances in skill learning. In 2020 delegates from 23 universities, 14 sports organisations and 8 countries attended.

4.5 Contributions to policy and public engagement

We have used QR and University funds (2.2) to support our researchers to deliver impact at international, national and local level by providing expert advice and evidence to practitioners, citizens, policymakers and industry.

Unit-level environment template (REF5b)

Governments: Internationally, **Merkel** provided a template for the Government of the Republic of Korea on inter-Korean co-operation at the 2018 Pyeongchang Winter Olympics; and **Novelli** has advised the European Parliament Transport and Tourism Committee on policy directions to address over-tourism. In the UK, **Doidge** has represented the interests of young refugees in presentations to the UK Home Office and the All-Parliamentary Group on Refugees. **Burdsey** presented to the Government Office for Science, at a workshop on 'The Future of the Seas'. **Maxwell** has addressed a House of Lords Select Committee on heat sensitivity in breast cancer survivors and contributed to a UK government report on the value of exercise and sport for individuals and communities. **Richardson** has presented at the UK Home Office Centre for Applied Science and Technology, advising national and international emergency services on physiological monitoring of staff.

INGOs (International Non-Government Organisations): For the World Bank and the Millennium Challenge Corporation (Washington DC), **Novelli** has evaluated tourism development models for Africa (Namibia/Ghana/The Gambia). **Tomlinson** provided the expert's report at a Council of Europe motion on football governance, business and values. **Sugden** was invited to address the United Nations (New York) group on sport development and peace on sport, identifying principles for effective interventions in peace-building through sport.

SINGOs (Sport-based International Non-Government Organisations): **Webborn** and **Pitsiladis** lead scientific and sport medical agendas at the IPC and the IOC, WADA, and FIMS, covering anti-doping strategies, adverse weather conditions, intersex and transgender, and comprehensive guidelines for a roadmap for the staging of the postponed Tokyo 2020 event. **Khomutova** has advised the European Judo Union on safeguarding measures and girls' retention in sport. **Jarvis** has provided guidelines on event planning and bids to the Federation of Gay Games.

National bodies: **Jones** has presented to the Team for Japan 2020 (Mitsubishi UFJ Research & Consulting) on transport control at Olympics. **Pantelidis** and **Jones** presented a sustainable development model to Cyprus Tourism for the all-inclusive tourism sector [ICS_Tourism]. **Maxwell**, **Brickley**, **Hayes**, and **Watt** share expertise on heat acclimation and performance/competition with UK Sport, England Rugby, GB Hockey, EIS, Team GB/BoA (British Olympic Association), and the Brazilian Olympic Association [ICS_GlobalCompetitorHealth]; **Richardson** shapes heat safety policies for the UK Fire Brigade Union.

Framing public discourse: We disseminate our research to multiple constituencies as part of our commitment to impactful research. **Pitsiladis**, **Novelli**, **Tomlinson**, **Doidge**, **Burdsey**, **Maxwell**, **Brickley**, **Merkel**, **Jarvis** and **Weeden** have regularly disseminated their research in national, regional, and international broadcasting and print media. **Pitsiladis** published numerous well cited opinion/consensus papers in *Sports Medicine* and the *British Journal of Sport Medicine* demonstrating his opinion leader status in the field. **Tomlinson** was Distinguished Speaker (2015) at the University of Colorado (Denver) event in the Daniels Fund Ethics Initiative, presenting on 'The Ethical Misadventures of FIFA'. Our engagements with wider audiences communicate our long-standing and distinctive international research focussed on ethics, values, social justice and wellbeing. Since 2014 we have successfully delivered our research and impact strategy maintaining a strong upward trajectory in research excellence so that we are well-placed to continue our leading role in addressing global challenges related to sport, leisure and tourism.