

<b>Institution: University of Sunderland</b>
<b>Unit of Assessment:24 – Sport and Exercise Sciences, Leisure and Tourism</b>
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p>Research at Sunderland in UoA24 is conducted across two groups – 1: Members of the Centre for Tourism Excellence (CERTE) which operates within the School of Hospitality, Events, Aviation, and Tourism, and 2: Members of the Exercise, Sport and Rehabilitation Therapies (ESRT) group, which operates within the Helen McArdle Research Institute for Health and Nursing Research, the focus for research in the School of Nursing and Health Sciences.</p> <p><b>1) Hospitality, Events, Aviation, and Tourism (HEAT)</b></p> <p>The HEAT-based research group currently delivers academic and applied research in three areas of specialism: (i) tourism, (ii) hospitality, and (iii) events. A fourth area – aviation – was recently added in 2019 and research activities in this area are a priority for development in the next five years. The <b>Centre for Tourism Excellence (CERTE)</b> was established in 2017 following consideration of the outcome of REF2014 to provide a clear focus for research in the School. Research in CERTE is underpinned by a critical, interdisciplinary approach that mirrors the dynamic nature of tourism, hospitality, events (and most recently, aviation) in contemporary societies. It aims to contribute to the generation of knowledge and the development of the academic discipline (e.g.: generation of high-quality publications; organisation of international research events), as well as delivering applied research with impact on industry. CERTE operates as a platform for research led teaching and the provision of transformative education and knowledge dissemination. CERTE, as the research arm of the HEAT School, is an integral part of the Faculty of Business Law and Tourism (FBLT). The HEAT group was highly rated (ranked 2<sup>nd</sup> in the country) in the 2019 Guardian subject league table.</p> <p><b>2) Exercise, Sport and Rehabilitation Therapies (ESRT)</b></p> <p>The ESRT research group undertakes theoretical and applied research in: (i) sport performance (ii) health and rehabilitation, and (iii) education. The research is underpinned by the interdisciplinary application of practice to develop a greater understanding of current issues in exercise, health, sport, physical education and rehabilitation therapies, providing practical tools to enhance performance and health-related outcomes across sport teams, health services, and educational institutions. The ERST group works within the Helen McArdle Research Institute, within the School of Nursing and Health Science. The research institute was established through a substantial philanthropic donation (£2.5m) to the University and benefits from excellent modern facilities. The Institute is underpinned by an ethos of improving care through ensuring avoidance of unintended or unexpected harm to patients or people during the provision of health care, by promoting the adoption and integration of evidence-based practices, interventions and policies into routine health care. The Helen McArdle programme of research activities includes conferences, lectures and workshops designed to build research capacity and capability for Nursing, Midwifery and Allied Health Professionals (into which the ERST group falls).</p> <p><b>Strategy</b></p> <p>Due to the diverse nature of the subject areas within both the HEAT and ESRT groups, interdisciplinary research is facilitated within and between the groups. Our research connects both the service industries and the sport, education, and health sectors, creating a genuinely interdisciplinary perspective. The main themes of our research are the following: Tourism; Hospitality; Events; Performance Sport; Health and Rehabilitation; and Education.</p> <p>The main themes of our research are as follows:</p> <p>Tourism</p> <ul style="list-style-type: none"> <li>• Transport, lifestyle and travel mobilities</li> </ul>

- Applied theories and philosophies
- Culture, heritage and creative industries
- Policy, planning and sustainable development
- e-tourism, e-marketing & ICT
- Risk & crisis management

#### Hospitality

- Operations and management
- Marketing and formulation of competitive advantage
- Corporate Social Responsibility
- Human resources management

#### Events

- Service quality
- Event and festival experiences
- Alternative events
- Event impacts

#### Performance Sport

- High intensity interval training
- Female elite rugby union
- Mental illness and elite athletes
- Cardiac screening in sport and exercise
- The female athlete

#### Health and Rehabilitation

- Health related exercise
- Behaviour change in mental health workers and occupational settings
- Postural rehabilitation
- Aging Athlete
- Lifestyle behaviours including physical activity, sleep and health

#### Education

- Coach education
- Youth sport
- Teaching and learning approaches in Sport & Exercise and Healthcare professions
- Professionalism
- Telehealth
- Philosophy of sport

#### **Research strategy (2014-2021) - HEAT**

Since 2014, research in the HEAT driven (since 2017) through CERTE, has taken forward the research strategy presented in REF2014 through: (i) publication of papers in high quality

journals (ii) organisation/co-organisation/co-sponsoring of local and international research events (symposia; conferences), and (iii) involvement with the local community and enterprises.

Over the period the unit has substantially improved its research outputs both in terms of quantity and quality, predominantly through a focus on improving quality and publishing in leading sector journals. The group has also sought to expand its networks and has done so through the organisation of international research events. The strategy has also included the expansion of research capacity with the employment of a Post-doctoral Research Fellow and two early career researchers (Postgraduate Academic Assistants), with full funding from the University for the latter two to complete their doctoral degrees. In addition, we have supported staff through group writing retreats, involved staff in organising and scientific committees for research events hosted by CERTE, supported staff participation in domestic and overseas conferences, and strengthened the research outputs of early career researchers through collaborations with HEAT researchers and sector collaborators from other institutions. Specific research activities have included:

- Since 2017: Hosting the annual “International Research Symposium in Tourism, Hospitality and Events” [IRS] which is held each May at the University of Sunderland.
- Since 2018: Co-organising (with the University of Derby) the biennial “Tourism Hospitality and Events International Conference” {THE INC}. In 2018 the conference was hosted by the University of Derby (Buxton, UK). In 2020 the conference will be hosted by NHL Stenden University (Leeuwarden, Netherlands).
- Since 2019: Established permanent membership of TNC (Tourism Naturally Conference) consortium. TNC is held annually, and the permanent consortium consists of seven universities across the globe (Colorado State [USA]; Derby [UK]; Sunderland [UK]; Trento [Italy]; Piza [Italy]; Deggendorf Institute of Technology [Germany]; Central China Normal University [China]). The University of Sunderland aspires to host the event in 2021.
- 2019: Organisation of a research seminar exploring quantitative and qualitative research analysis in Tourism. The event attracted external interest and attendance.
- 2019: Co-sponsoring the 4<sup>th</sup> Caribbean- International Tourism Conference ‘Navigating the Destination of the Future’, which was held at the University of West Indies (Cave Hill Campus), Barbados and which was the product of a collaboration between 7 international universities (University of Sunderland, University of the West Indies (Cave Hill, Barbados and Trinidad and Tobago), University of St Martin, California State University, Northridge, University of Carolina, Wilmington and the University of Guyana.

### **2014-2021 Strategy and Implementation**

As indicated, CERTE’s research has focused on three main areas of specialism:

**Tourism** researchers have generated publications in this field which have appeared in high quality journals including: *Annals of Tourism Research*, *Tourism Management* and *Journal of Travel Research*. In addition, a special issue of the journal ‘*Tourism Planning and Development*’ (ABS 2\*), was published following contributions from unit members to the THE INC 2020. In the tourism field, the work of Associate Professor Dr Nikolaos **Pappas** has contributed to the establishment of non-linear mixed methods’ analysis (with special reference to fuzzy-set Qualitative Comparative Analysis (fsQCA) while that of Professor Donna **Chambers** has advanced thinking around epistemological decolonisation. As an example of local impact and engagement, Chambers is conducting a funded project (2019-2020) on the legacy of the Tall Ships 2018 visit to Sunderland.

**Hospitality** researchers have published a number of high-quality publications in this field. A special issue of the journal *Hospitality and Society* (ABS 2\*) has been produced, connected with THE INC 2018 conference. As an example of local impact and engagement, a funded project (2017) assessing user accessibility at the Stadium of Light, home to Sunderland AFC, was conducted by CERTE member Dr Nicole **Mitsche**.

**Events** unit members have published in sector leading journals in this field. In addition, four special issues (two connected with THE INC 2018 conference; two connected with THE INC 2020 conference) have been published in the *Event Management journal* (ABS 2\*) and a special issue of another journal *Anatolia* is being prepared from the 4<sup>th</sup> Caribbean International Tourism Conference. Furthermore, CERTE members have played substantial a substantial in the organisation and sponsoring of international research events (IRS; THE INC; TNC; 4<sup>th</sup> Caribbean International Tourism Conference).

### **2021 and beyond: future strategy**

Having established CERTE as the research centre for the School of HEAT, the unit will continue to strengthen research through the next assessment period. HEAT has an inclusive approach to research, and encourages its staff to work across research subject areas in a multi and interdisciplinary context both within and across Faculties; and also with external partners. Senior researchers will continue to play an integral role in mentoring early career researchers and supporting them to connect with researchers globally via conferences and networks. More specifically, the future CERTE strategy aims to:

- Continue investing in the strengthening of multi and inter-disciplinary research
- Enhance collaboration between research staff within HEAT, the Faculty of Business, Leisure and Tourism, the University and externally.
- Further develop and expand collaborations with industry at regional, national and international level.

These aims will be realised through the following objectives:

**Investing in high quality research:** Continue to support the expansion of staff research capacity and capabilities through the generation of high-quality publications. University quality review processes, introduced since REF 2014, provide assurance that unit outputs are improving in-line with our strategic objectives.

Over the next period we will continue to drive up the quality of our research outputs. For this reason, CERTE has identified two visiting professors, Elena Cavagnaro (NHL Stenden University); Richard Sharpley (University of Central Lancashire) to support early career researchers in the development and dissemination of outputs, with the aim of increasing the quality and volume of publications. Moreover, a substantial increase of PGRs in the forthcoming years is pivotal for achieving the aforementioned aims. We aim to increase our PhD cohort from nine to 15 within the next five years (the increase will be based on externally (and/or self) funded PhDs), also continuing to provide PhD funding opportunities. We will continue to organise research seminars and writing retreats to further strengthen the quality of the research outputs of research staff and PGRs. CERTE will organise at least one generic research training seminar (in qualitative and quantitative methods – SPSS; NVivo) on an annual basis, and also be involved in the organisation of funded specialized (i.e.: SEM; fsQCA; NCA) research training seminars from NCRM (National Centre for Research Methods).

**Extending collaboration:** CERTE will continue to build on existing networks (e.g.: THE INC – University of Derby; NHL Stenden University) and consortia (e.g: TNC consortium), to further expand its activities through partnership development at both national and

international levels. In addition, it will seek further industry collaborations at the regional level through specific targeted partnerships (e.g. Stadium of Light; Newcastle Gateshead Initiative, Culture Sunderland, Creative Fuse North East and Northern Accelerator)

**New initiatives (five years):** CERTE aims to enhance its external funding capabilities through collaborative bids to UK and international funding organisations (ESRC; Leverhulme, British Academy, Horizon, Newton). HEAT has already started building project teams from faculty research staff, and is developing networks on a national and international level. By way of an example, CERTE is currently leading a collaborative project funded through the institution's Global Challenges Research Fund. This project aims to investigate the effect COVID19 has had on the tourism industry in Sri Lanka and the formulation of strategies the industry should employ in order to recover and adapt in a time of crisis

**Operational research management:** The Dean of the Faculty of Business, Law and Tourism (FBLT) maintains strategic and operational responsibility for faculty research, supported by the Head of Faculty Research (FBLT) and the Professoriate. At departmental level, (HEAT) research strategy and operations are led by the Director of CERTE. On a monthly basis there is a faculty meeting with senior researchers, which develops and evaluates research activity at the faculty level, while CERTE has regular meetings with HEAT researchers to develop and implement strategies at the unit level. Staff are encouraged to publish and develop research initiatives, and also receive mentoring from senior academics (Professors; Visiting Professors; Associate Professors for Research).

#### **Research strategy (2014-2021) - ESRT**

The ESRT group is a compact research team that focusses its research in three key areas, based upon the academic expertise, collaborative experience and strength of the research-active staff. The three areas are: Performance Sport; Health and Rehabilitation; and Education. Research-active staff engage in activities within and across the three areas, bringing together shared methodologies and expertise that support interdisciplinary applied research. We aim to increase both the quality and quantity of research in these areas through the development of our research-enabled staff, increasing the applied and translational impact of our research, and expand collaboration with external partners to help identify and address key challenges.

In the field of **Performance Sport**, we explore physical performance characteristics to understand and improve sporting performance at elite level, address the challenges faced by sports people in mental health and lifestyle, and examine sport and exercise impacts on physical abilities. The work of Dr. David **Archer** has contributed to the understanding of the demands of English Premiership and European professional football providing essential information for the development of evidence-based coaching and guidance for clubs and football associations such as the English FA and FIFA. Dr. Eddie **Bradley** has created the first measurement of the newly formed English women's rugby union professional league competition, with the research currently ongoing in collaboration with the Rugby Football Union. Publications in this area have appeared in high quality journals including *Medicine and Science in Sports and Exercise*, *International Journal of Sports Physiology and Performance*, and *Journal of Sport Sciences*. The group intends to continue this work in the specific areas of: high intensity interval training, female rugby union, mental illness and elite athletes, cardiac screening in sport and exercise, and the female athlete.

In the **Health and Rehabilitation** research area, we address the challenges faced by sport and rehabilitative practitioners in understanding lifestyle and exercise behaviours on physical and mental health, focus on the impact of exercise and health on specific populations, and examine the impact of rehabilitation in improving physical health. Dr. Sandra **Leyland** and visiting professor Dr. Alan Currie, lead an ESRT headed collaborative project with Cumbria,



Northumberland, Tyne and Wear NHS Foundation Trust, examining the role of exercise in treating patients with enduring mental health conditions and the role NHS staff play in facilitating the offering of exercise in this patient cohort, Dr. Paul **Innerd** has worked on a research project with Newcastle Hospitals NHS Trust on the effects of sleep and physical activity in overweight and obese patients, Dr Will **Evans** has created a cardiac screening project for youth footballers in collaboration with the Sunderland Foundation of Light, and Dr Lisa **Board** collaborated with Tyne & Wear Fire Service to address the impact of aging on physiological responses and health in firefighters. Publications have been published in journals such as BMC Public Health, Mental Health and Physical Activity, and Journal of Exercise Physiology. The group intends to continue this work in the following specific areas of health-related exercise, behavioural change in mental health workers and occupational settings, postural rehabilitation, the aging athlete, and lifestyle behaviours in physical activity, sleep, and health. In part these developments in research direction are driven by the recent expansion of the team to incorporation rehabilitative therapies, with an increase in academic expertise in physiotherapy and occupational health.

In the **Education** field, we are examining teaching and learning innovations in Sport & Exercise Sciences, Rehabilitative Therapies, and Healthcare, and address the challenges of professionalism in both Sport and Rehabilitation. Dr. Paul **Davis** has published several critical essays across the sport philosophy spectrum, including sectarianism, gender and partisanism and the implications on society. This work has been published in journals including the *Journal of Philosophy*, *Ethics and Sport Law* and *Journal of the Philosophy of Sport*. Dr. Eddie **Bradley** has investigated pedagogic innovations in Sport & Exercise Sciences teaching such as competency-based learning and trustable professional activities to understand the impact on student behaviours and outcomes. The group intends to continue this work in the areas of: coach education, youth sport, teaching and learning approaches in sport & exercise and healthcare settings, professionalism, telehealth, and the philosophy of sport. This work is supported by research-active staff holding roles within the British Association of Sport & Exercise Sciences on both the Professional Standards Committee and the Steering Committee for the Special Interest Group in Learning and Teaching.

### **2014-2021 Strategy and implementation**

Since the outcome of REF 2014, ERST has sought to increase its research outputs both in terms of quantity and quality, predominantly by focusing on the expansion of the group's research capacity which, in 2014, was identified as a limiting factor. Collaborative internal and external research partnerships have been established. The School has supported the group by increasing the number of staff considered research active. This has been achieved through the increased number of staff pursuing and successfully completing research degrees (44% of all staff since 2014), increased employment of early career researchers into academic posts (Rachel Makin; Lora Nelson), collaboration between ERST researchers and with others within and outside of the Faculty, and support for staff participation in domestic and overseas conferences, and publication costs. We have sought to add to the spectrum of staff research skills – for example, since 2019, we have organised a monthly Faculty Research Seminar series concerning quantitative and qualitative research analysis, and we have also taken steps to improve the level of academic writing through regular group workshops and involvement of staff at national conferences that promote academic development, for example the SOLSTICE conference.

In line with the strategy presented in REF2014, our research strengthens University civic responsibilities and commitments to our local community by enhancing the local economy and quality of life. We ensure that our research is fully engaged with our local community through specific outreach activities including:

- Since 2017: Organisation of community-based health and fitness assessment for staff within charity institutions such as Tombola.
- Since 2018: Assessment of cardiac responses during simulated and real emergency situations experienced by the Tyne & Wear Fire Service.
- In 2017, the co-organisation of Public Health seminars in conjunction with Public Health England and NHS Trusts in the North-East England.
- In 2017 and 2018, researchers within the team organised pedagogic-focused training workshops on digital learning technologies and new statistical programs for data analysis in health research.
- Since 2019, a Forces in Mind Trust funded project examining the role of performance enhancing drug use in Armed Forces veterans.
- Since 2020, an ESRC funded series of online courses for postgraduate students and postdoctoral researchers across the five North-East universities on the use of open-source software for research design and analysis

### ***2021 and beyond: future strategy***

The ERST group strategy for 2021 – 2028 aims to:

- Continue investing in the strengthening of multi and inter-disciplinary research in the priority areas described below.
- Build upon the existing collaboration between research staff within the ERST Department, the Faculty of Health Sciences and Wellbeing, the Helen McArdle Research Institute, and the University, to enhance research opportunities and project development
- Further develop and expand collaborations with industry at a regional, national and international level.

These aims are supported by the following objectives:

***Investing in research:*** Continue to support the expansion of staff research capacity and capabilities by generating high quality research and publishing in high quality journals. We have developed targets and KPIs to monitor our progress in this area. The ERST group is supporting all non-research active staff to become research active. To facilitate this, all staff (3) who currently do not hold research degrees are being encouraged to begin doctoral programmes, of which one has commenced a PhD study and another has commenced a Professional Doctorate, alongside both members of technical staff in the department following a similar path. Further to staff development, the team is committed to increasing the recruitment of Postgraduate Researchers (PGR) in the forthcoming years to increase capacity. In this regard we aim to increase our PhD cohort from 10 to 18 within the next five years, primarily through internal and external or self-funded opportunities. We aim to identify and secure external funding streams to offer funded research opportunities through UKRI funding councils and collaborative partners such as the NHS and Sport England. We will continue to run monthly research seminars and plans for an annual writing retreat are well developed. The intention here is to further enhance research knowledge and skills of our existing and future staff and PGR's, and strengthen the quality of research outputs by sharing good practice between members of the group (and more widely), drawing on the skills and experience of senior researchers and visiting professors.

The ERST Group has an inclusive research approach and encourages staff to work across research subject areas in a multi and interdisciplinary context both within and across faculties and also with external partners. Senior researchers will continue to play an integral role in mentoring early career researchers and supporting them to connect with researchers

globally via conferences and networks.

**Extending collaboration:** ERST already makes full use of its existing networks (e.g. NHS Trusts; FUSE – Centre for Translational Research in Public Health; Sunderland Foundation of Light) to conduct collaborative research as evidenced by the use of physical activity prescription for mental health patients project with the Cumbria, Northumberland, Tyne & Wear NHS Trust, an ongoing study cardiac screening project with football players from the Foundation of Light, and a FUSE project in conjunction with both Newcastle University and Newcastle-upon-Tyne Hospitals NHS Trust, to develop therapeutic interventions of physical activity and sleep. We intend to further expand these activities through partnership development at both national and international levels. We will develop collaboration through specific targeted partnerships (e.g. Helen McArdle Research Institute; with the Foundation of Light; Forces in Mind Trust; Northumbria Police) and utilise regional and national funding opportunities for growth (e.g. Creative Fuse North East; Northern Accelerator; Sport England; Armed Forces Covenant; International Network of Sport & Health Sciences).

**New initiatives (five years):** Our goal is to continue to strengthen our ESRT Research group input within the Helen McArdle Nursing and Care Research Institute to facilitate the continued development of research within the Faculty. The ERST group already has teams focused on specific research problems in the impact of physical activity and lifestyle on mental health in athletic and general populations, perimenopausal and menopausal women and physical activity patterns, and postural effects of clothing and equipment in occupational settings and is developing networks on a national and international level. The ERST group has recently expanded through the merging of the Sport and Exercise team and Public Health and Allied Health team, with a resultant increase in rehabilitation focused projects. Additionally, the Department is creating a critical mass of research active staff concerned with the development of the female athlete.

**Operational research management:** The Dean of the Faculty of Health Sciences and Wellbeing (FHSW) is the lead academic with responsibility for the strategic and operational issues concerning research, and is supported by the Head of Faculty Research and the Helen McArdle Research Institute (FHSW level), the collective Professoriate and the Pro Vice-Chancellor (University level). At ERST group level, research strategy and operations are led by the Team Leader. On a monthly basis there is a faculty meeting with senior researchers, which develops and evaluates research strategy at Faculty level. The ERST team has regular meetings with all researchers to develop and implement strategies at this level. Staff are encouraged to publish and develop research initiatives and receive mentoring from senior academics (Professors; Visiting Professors; Associate Professors for Research), for example, Visiting Professor (Dr Alan Currie, Cumbria, Northumberland, Tyne & Wear NHS Trust).

## 2. People

### Staffing strategy and staff development

The **HEAT** group consists of eleven members of academic staff, six of whom are research active and engaged in interdisciplinary, qualitative, quantitative and mixed methods research, and four of whom are currently undertaking doctoral degrees. Since 2014 two HEAT academics have been awarded PhDs. In order to further widen the research activities of the group, and substantially support the research focus of the academic staff, several collaborations have been established with Universities in the UK (e.g.: Derby; Lincoln; Northumbria) and overseas universities (Aegean, Greece; Colorado State, USA; CUT, Cyprus; Deggendorf Institute of Technology, Germany; NHL Stenden, Netherlands; Trento; Italy), as well as national and international organisations (e.g.: Institute of Hospitality; Tourism Management Institute [TMI]; Association for Events Management Education [AEME]; Tourism Naturally Conference [TNC] consortium).



The **ESRT** group consists of 22.3 academics, of which thirteen (13) are currently research active (61%) and engaged in qualitative, quantitative, and mixed methods research. Within the group, three are classified as Early Career Researchers (14%), and a further four (19%) are currently developing research opportunities in the newly incorporated subject areas of physiotherapy and occupational therapy. Additionally, one member of the group is being supported to commence a doctoral study in the area of Sports Coaching and another to commence a Professional Doctorate in Occupational Therapy. The development of research-able staff in the group widens the scope of the unit, building capacity for the future. ESRT academics work closely with elite level sport teams to deliver knowledge exchange. This enables practical research to be conducted where the teams, players and coaches are involved in identifying appropriate questions and guide the focus of the research. The data is continually fed back to inform training and performance. Similarly, research is delivered in partnership with the Helen McArdle Research Institute and local NHS trusts and hospitals, with the aim of developing an understanding of NHS practice and inform future policy.

In both research groups, all academic staff are encouraged and supported to engage in research activities through the institutional research planning process and each member is required to complete and submit annual Individual Research Plans (IRP). The research plans enable all academic staff to access funding to support research activities such as conference attendance and publication costs.

University development programmes (e.g.: writing retreats; financial support for attending and presenting research in domestic and overseas conferences; discretionary IRP workload allowances (equating to 160 hours per annum), highlight the institutional staff support for research. In addition, the university HR policies provide support through generous flexible leave.

#### **Staffing–future strategy (2021-2028)**

During the future assessment period **HEAT** aspires to:

- Continue to recruit research-active academics in tourism, hospitality and events, with a particular focus on the newly created research area of aviation
- Continue to mentor Early Career Researchers to develop their career goals so that they can reach their full potential.
- Continue organising/co-organising/co-sponsoring international research events through CERTE, also involving its ECR staff in the organising and scientific committees, and bringing them in contact with esteemed researchers throughout the globe.
- Increase the engagement of all staff in HEAT with major conferences (all staff can receive conference funding for at least one conference annually), from which they can develop research outputs with further support through research seminars and appropriate mentoring.

During the future assessment period **ESRT** aspires to:

- Embed the group within the Helen McArdle Research Institute and develop the ERST research group to strengthen research capacity.
- Continue to recruit research-active academics in sport, exercise and health, with particular focus on the newly created research areas of rehabilitation and the female athlete.
- Continue to mentor Early Career Researchers to develop their career goals so that they can reach their full potential.
- Increase the participation of all ERST staff in major conferences (all staff can receive conference funding for at least one conference annually), from which they can develop research outputs with further support through research seminars and appropriate

mentoring and integration with national (e.g. BASES) and international (e.g. International Network of Sport & Health Sciences) organisations.

### Research students

The **HEAT** group has nine postgraduate research students. Four of those PhDs are funded by the University (2 staff members and 2 PGAs), whilst the other five PhDs are self-funded. currently working areas including working practices in aviation, destination image and gamification, risk and crisis management in hospitality, visitor experience through augmented reality, festival attendee wellbeing, sustainable coastal tourism, gender and hospitality and theorising tourism and mobility. Since the beginning of the REF (2014-2021), three members of staff have gained their PhD (one of them left the University in 2017, and currently works at the University of Northumbria).

The **ESRT** group has 10 postgraduate research students currently working the fields of training in female triathletes and menstrual cycle, biomechanical assessment of horse-rider interaction, bone-loading in netball, teaching games for understanding in physical education, student volunteering and engagement, and performance- and image-enhancing drugs. Between 2014 and 2020, a total of 9 students have completed postgraduate research programmes including 9 PhD candidates. One of these was a current member of staff who completed the research degree as part of continued personal development and a further candidate who has subsequently progressed to become a full-time member of staff and continues to be research active.

Table 1: Postgraduate research degree students in HEAT/ESRT enrolled on doctoral programmes (UoA 24)

Academic Year	PhD Completions
2014-2015	1
2015-2016	1
2016-2017	2
2017-2018	4
2018-2019	1
2019-2020	-

In both groups (HEAT; ESRT), a supervisory team is assigned to all PGRs. All PGRs are obligated to participate in training sessions related to research methodology, which are organised by the University. In each supervisory team, at least one member needs to previously have PhD completions.

The University's performance in the **Postgraduate Research Experience Survey** (PRES) placed it 2<sup>nd</sup> out of 63 institutions in 2018 and 11<sup>th</sup> out of 103 institutions in 2019, indicating a strong research culture and positive postgraduate experience across the institution.

### Equality and diversity

Equality and diversity considerations are of pivotal importance to both research groups. Over the assessment period, the groups have strengthened activity to embed equality, diversity and inclusive practices in both HEAT and ESRT. More specifically:

The **HEAT** School consists of nine FTE academics. Five of them are women (55.5%) and four of them are men (44.5%). In addition, five of them are British born nationals (55.5%), and four academics (44.5%) originate from overseas (Austria; Greece; Jamaica; Turkey) and one is from a BAME background. There is also a mix of ECRs and more experienced academics. The HEAT department, through CERTE, has organised a number of conferences and symposia and it is our policy that equality and diversity issues are taken

into account when inviting keynote speakers, panel chairs and members of the scientific committees. Our PGR students also represent diverse cultures from Malaysia, Nigeria, Greece, Hungary, and the UK.

The **ESRT** department consists of 22.3 FTE academics. Fourteen (14) are men (63%) and eight (plus a 0.3 fractional post) are women (37%). In addition, one originated overseas (5%). Thirteen (13) are currently research active (61%) and engaged in qualitative, quantitative, and mixed methods research. Within the group, three are classified as Early Career Researchers (14%).

### 3. Income, infrastructure and facilities

During the current REF assessment period, the **HEAT** School was involved in two funded research projects. The first project (externally funded) was conducted on the validity and reliability of an accessibility survey for wheel chair users commissioned by the Stadium of Light. The second project was funded internally in 2019-2020, and focused on the legacies of the Tall Ships event held in Sunderland in 2018. Moreover in 2017 CERTE (the research centre of HEAT) was founded, and since then it operates as the research branch of HEAT.

For the future, the HEAT group aims to increase external funding from national and international funding bodies, something that has already started to materialised. Specifically, since the beginning of 2021, CERTE is involved in a collaborative project funded by UKRI, in collaboration with an OECD partner (in this case we collaborate with ICBT in Sri Lanka). The project focuses on the impact of COVID-19 in travel, tourism, and hospitality industry.

The **ESRT** group is part of the Helen McArdle Research Institute for health and nursing research, within the School of Nursing and Health Science. The institute was established through a substantial philanthropic donation (£2.5m) to the University and enables the ERST group researcher to conduct health related investigations. Additionally, in 2019, the main building for the ERST group, underwent a £6.2 million refurbishment to improved research capacity. During the REF 2014-2021 period, the ESRT Group was involved in a number of externally funded research projects. A project was commissioned by the Forces in Mind Trust (£46000) between 2018-2019 to investigate the role of physical activity to improve mental health in armed forces veterans and linked to the University of Sunderland – Army covenant. Another project, funded by the English Institute of Sport and the International Olympic Committee, investigated mental health in elite athletes and strategies to prevent and manage mental health issues during and after professional athletic and sporting careers.

Moving forward, the ESRT Group aims to increase funding through the Helen McArdle Institute and secure external funding from the UKRI funding councils and collaborative partners. A recent successful example of this approach is an NHS funded project (£15000) to assess the impact of home working in the North East and Cumbria NHS Trusts on mental and physical health, with the objective to develop strategies that can be implemented at local and national level across the NHS.

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

#### HEAT

During the REF assessment period HEAT was involved in the two aforementioned research projects, each of which related with regional concerns. It has also established co-operation through the organisation and sponsorship of international research events (THE INC; TNC; 4<sup>th</sup> Caribbean-International Tourism) with universities and research centers across the world. In terms of publications, HEAT researchers have collaborated with colleagues from other UK universities (e.g.: University of Lincoln; Northumbria University; Leeds Beckett University; University of Derby) together with international collaborators around the world (e.g.: University of Aegean; Technological University of Cyprus; University of Rome, Arizona State University). Other collaborative activity includes cooperation with colleagues in guest editorials (NHL

Stenden University; University of Derby, University of the West Indies), leading to a significant expansion of its collaboration networks.

The academics of HEAT actively and significantly contribute to the development of tourism, hospitality, and events as fields of research by interacting with the private, public and third sectors, research centres, and universities across the world.

The growing standing of HEAT staff is evidenced through their involvement in editing leading academic texts in their disciplines (i.e.: *Global dynamics in travel tourism and hospitality* [IGI=Global]; *Emerging transformations in tourism, hospitality and events* [Routledge]) and *Tourism Research Frontiers* (Emerald). In addition, staff have key roles on the Editorial boards of major journals - Professor Donna **Chambers** is a Managing Editor of *Leisure Studies*, and Associate Editor of *Annals of Tourism Research* and is on the Editorial Board of a new journal titled *Tourism Critiques*. Associate Professor Nikolaos **Pappas** sits on the editorial board of the *Journal of Hospitality and Tourism Management*. Professor Donna **Chambers** has also been an invited keynote speaker at numerous academic conferences and seminars both in the UK and overseas and is a peer reviewer for the UKRI Future Leaders Fellowship Peer Review College where she reviews large funding applications within her area of specialism. Associate Professor Nikolaos **Pappas** has undertaken several guest editorials for major journals in the field (i.e.: *Event Management*; *Hospitality and Society*; *Tourism Planning and Development*), he has delivered several keynotes in academic conferences and seminars in UK and overseas (i.e.: 11-13/12/2019: Keynote at 4th Caribbean- International Conference in Tourism 'Navigating the Destination of the Next Decade', University of West Indies (Cave Hill Campus), Barbados; 2-3/5/2019: Keynote at Postgraduate Research Conference, University of Derby, Buxton, United Kingdom), whilst in the past (prior REF 2014-2021) he was involved and led in several major projects funded by the European Union (i.e.: HERMES; Leader+; EQUAL). Researchers in HEAT have also undertaken reviews of manuscripts for a considerable number of journals in the field of tourism, hospitality events and leisure.

### ESRT

The ESRT group deliver research in collaboration with a number of regional, national, and international partners. The group work closely with four local NHS trusts (Sunderland City Hospitals, Cumbria, Northumberland and Tyne & Wear, Newcastle City) to facilitate health related research projects. Sport and performance collaborations exist between the Sunderland Foundation of Light to provide player development and community involvement, while collaboration with DMP Sharks Women's Rugby club and the RFU engage research within elite sports. ESRT group members are part of an externally funded collaboration with the English Institution of Sport (EIS), and research is conducted with collaborators in the International Network of Sport & Health Sciences.

Both Dr Lisa **Board** and Dr Eddie **Bradley** work with the British Association of Sport and Exercise Sciences (BASES) and are both BASES Accredited Sports Scientists, with Dr **Board** awarded a BASES Fellowship (2016) for continued promotion of sport and exercise sciences in the UK and has recently appointed the Chair for the BASES Undergraduate Endorsement Scheme and sits on the BASES Professional Standards Committee, while Dr **Bradley** recently elected on to the Steering Committee of the BASES Special Interest Group in Learning & Teaching. Staff within the ERST group hold Qualified Teacher Status, are members of professional bodies including the British Psychological Society, the Institute of Engineering & Technology, the International Society of Biomechanics in Sport, the Royal College of Occupational Therapists, and the Chartered Society of Physiotherapy are involved with leading academic journals, for example Dr Teri Taylor being an Editor for the *International Journal of Therapy and Rehabilitation*, and staff contribute as journal reviewers for several journals in the field, such as the *Journal of Sports Sciences*, the *International Journal of Environmental Research and Public Health*, and the *European Journal of Sport Science*.