Institution: University of Hull

Unit of Assessment: C26: Sport and Exercise Sciences, Leisure and Tourism

a. Overview

The Department of Sport, Health and Exercise Science (SHES) was established in 2003, supported by significant institutional investment in both staff and research infrastructure, including high-quality facilities and equipment. The University's aim was to create a department that would be recognised internationally as a centre of excellence for sport, health and exercise science.

Staff from SHES comprise all 11.0 FTE staff entered in this UoA26 submission. Structurally, present day research activity within SHES reflects the sustained institutional commitment to strategic reconfiguration. Recently appointed research leaders and ECR staff, extensive development of research facilities, together with the widening of interdisciplinary collaborations has secured a strong pathway for the development of nationally and internationally recognised staff, working within two research groups; 'Exercise, Health, and Human Performance' (EHHP) and 'Sport, Pedagogy and Practice' (SPP).

In this period, SHES has considerably expanded its postgraduate research student base (from 5.99 to 15.39 FTE) and continues to invest in its Graduate Teaching Associate (GTA) scheme. SHES has increased both PhD and MSc by Research completions (16 and 10 completions, respectively, in the period). The department has a well-organised postgraduate training programme which shows competent PhD submission and completion data (75% within 4 and 7 years) and well-published doctoral graduates.

The UoA shows improving independent research income from various sources, including competitive charity funding. Total (all years) research income has increased from 89.9K (RAE2008) to 270.0 K. Moreover, there has been significant external grant income success within University consortia and larger-scale international research collaborations. Such partnerships have resulted in a substantial improvement in high-quality research outputs. The UoA research is applied, interdisciplinary in its overall orientation and increasingly influential in its capacity to impact on regional clinical and community health-related exercise settings, elite sports organisations regionally and globally, and multi-centre European trials.

b. Research strategy

Staff from SHES constituted 9.0 of the 11.0 FTE staff entered in the Unit of Assessment (UoA) 46 Sports-related RAE2008 submission from the University of Hull. At this early stage of development, SHES demonstrated a capacity to undertake applied research to the performance of athletes, particularly elite sports teams and had evidence of collaborative interdisciplinary bio-molecular work with other University departments. The RAE2008 benchmark showed that half of the research outputs submitted were at the 2* level or above, including 11.4% at 3*. The research strategy outlined in RAE2008 focused on developing existing strengths to support high-quality applied, interdisciplinary research within an internationalisation agenda. The strategy also proposed to expand the research base by investment and growth in external income, researchers and postgraduates.

The University confirmed its intention to build on RAE2008, by the investment in additional research-led staffing and over 3 million pounds in laboratory facilities and equipment. SHES has continued to mature through a process of strategic recruitment, including the appointment of internationally recognised and established research staff, including two professorial posts (Carroll and Gilbourne in 2011). Subsequently, research-led staff appointments (specifically targeted to the physical activity, exercise and health and critical social science themes) have included 5 ECR within a medium-to-long term development plan. The University's broad research strategy is a "research-led University that places a premium on the student experience". This strategy is disseminated and tailored to SHES through the Faculty Executive and Research and Enterprise Committee (FREC) to the Departmental Research and Enterprise Committee. The latter, is responsible for directing SHES research, ensuring it reflects University/Faculty agendas and priorities. This committee has responsibility for departmental postgraduate student monitoring. Departmental research outputs are specifically monitored against University Council key research

performance indicators, including annual targets for postgraduate research recruitment, PhD submission/completion rates and competitive research income. The University Academic Investment Initiative (2013) has further emphasised the need for improvements in high quality (3/4*) research outputs and competitive grant income.

The SHES research strategy is now closely aligned to the University's mission and research strategy (2011-5) to promote research across traditional academic disciplines with a particular emphasis on translational biomedical research. Interdisciplinary collaborations across the University have been strengthened by the institutional "Health and Well-being" research theme. The research strategy and activity of both EHHP and SPP groups links to this cross-cutting multi-disciplinary strategic theme through an emphasis on clinical and applied sport and exercise sciences in the human domain.

Research within the two primary SHES research groups ('Exercise, Health and Human Performance' (EHHP) led by Carroll and 'Sport, Pedagogy and Practice' (SPP) by Gilbourne) includes both basic/theoretical and applied work undertaken within collaborative partnerships. The convergence of SHES research around two core research themes (including, but not limited to staff submitted in this UoA and all postgraduate research students) encourages larger groups of research active individuals to work together and to develop complementary areas of research interest in a supportive, constructive and critical environment.

The collaborative and translational research projects associated with the EHHP group have "exercise as medicine" (ACSM & AMA, 2007) as a main underlying theme. Moreover, SHES research aims to enhance understanding of practices and processes that support the active lifestyles, health and well-being and the sporting performance and coaching practices and experiences of both individuals and groups at all levels of participation. Access and collaboration across a range of established clinical networks, laboratories and analytical and imaging tools within the wider University has been one key element in the development of the EHHP research strategy. Biomedical collaborations, notably with the departments of Academic Cardiology, Academic Vascular Surgery Unit, Medical Engineering and Biological and Biomedical and Environmental Sciences are augmented by internal and externally funded studentships supporting major interdisciplinary collaborative projects. Notably, SHES has formed a strategic research partnership (Carroll steering group member) with the multidisciplinary HEIF5 funded Humber Obesity Nutrition Education and Innovation (HONEI), and with projects and clinicians from the Centre for Cardiometabolic Health within the Hull York Medical School (HYMS).

The SPP group also responds to the University strategic plan through the development of innovative interdisciplinary research and applied practice examining challenging nature of personal experiences within sport and exercise - linked to well-being and performance in local community projects and regional through to international elite sporting groups.

c. People, including:

i. Staffing strategy and staff development

Since 2008, SHES has recruited 12.0 new FTE category A, research-active staff on permanent contracts, including two Professors (Carroll and Gilbourne) and three Senior Lecturers (Ingle [now Reader], Potrac, Vanicek). Six lecturers (within this submission) have also been recruited from national and international research groups and sporting organisations (Ditroilo, Matsakas, Fogarty, Nelson, Toner, Vince). SHES has been successful in strategically recruiting promising ECRs; appointed on the basis of their existing high-quality outputs, capacity to develop into strong independent researchers within areas that compliment, or bring additional strengths to the main research foci of the two research groups. This UoA26 submission includes 6 ECR (45% of all submitted staff).

The pattern of staff recruitment typically followed Professorial appointments (September 2011), with 5 staff recruited in the last 2 years. Among staff departures since the last submission, there has been one retirement and four staff have secured promotion to Senior Lecturer, Reader and Professor posts in the UK and abroad. The recent departure of Potrac (October 2013) will require strategic replacement to continue some of the specific research themes of the SPP group.

However, the forthcoming internal SL appointment of Nicholls, a leading sport psychology researcher on stress and coping in sport (from Department of Psychology), will strengthen the departmental applied research base (see UoA26 Enhancing coaching practice, impact case study).

At the departmental level, academic staff meets annually with the Head of Department (Carroll) for developmental appraisal and research conversation meetings. The department also supports academic staff with a research mentorship programme for early career researchers, and provides internal funding through a competitive bidding process for seeding grants, bid preparation grants, and international conference travel funding.
To support newly appointed staff, the Department provides equipment and consumable start up packages, dedicated workshops (for example, the Vitae, "How to be an effective researcher" course delivered by the central staff development unit) and technical support, academic mentors, and structured personal development. ECR staff are supported by a series of departmental and university mechanisms, including provision of equipment and consumable start-up funding. New staff are typically allocated reduced teaching and administration loads for their first 2 probationary years in post. Staff have access to an extensive range of development courses including guidance on research grant applications and compulsory Graduate School courses on research student supervision. SHES adheres to university policies on equality of opportunity in arrangements for developing the research careers of all staff members, including study leave requests. Departmental PhD fee-waivers have also been allocated to develop the research careers of part-time staff. All those involved in staff appointments must have undertaken equality and diversity training. The University has submitted an application for the Athena SWAN Bronze award. The working group, including departmental representative Vanicek, is tasked with further work towards higher level awards. The Departmental and Faculty Ethics Committees (both chaired by Ingle) ensures that any research carried out by SHES staff or students meets the highest standards of ethical behaviour and report to the University Ethics Committee. The department has hosted national and international experts to inform areas of strategic research development. The programme has provided opportunities for staff to develop collaborations with world-leading researchers and the department is reviewing its honorary research fellow and professorial appointments.

ii. Research students

Developing a larger postgraduate research community was cited as key component of the research strategy, outlined in RAE2008. SHES has subsequently developed a vibrant postgraduate research community, with 11.0 full-time and 16.0 part-time PhD students registered (July 2013). Departmental PhD student (FTE and headcounts) have increased substantially over the 5 year period. Table 1 below summarises the postgraduate research development in SHES, listing students registered for a research doctoral degree and PhD completions in the period 2008/9 to 2012/3. Since 2008, SHES has additionally also graduated 10 MSc by Research students. This results from the deliberate postgraduate investment strategy following RAE2008, one important component of which has been the continued departmental investment (~£70,000 pa) in Graduate Teaching Assistants (GTAs). Furthermore, SHES staff have attained institutional support for 8 competitive PhD studentships since 2008 and 3 competitive studentships have been secured for 2014. SHES has recently appointed its first postdoctoral research assistant (Hobkirk), in partnership with HONEI.

A supportive and developing postgraduate environment (including dedicated facilities, formal monitoring, discipline specific training and conference/travel support) is evidenced by the satisfactory proportion (75%) of PhD's submitting and completing (within 4 and 7 years). SHES students have published articles in peer-reviewed journals and presented widely at national/international conferences (ECSS, ASCM). Impressive first and co-authored scientific outputs among several recently completed doctoral students (inc. GTA's) are further testimony to a productive postgraduate environment (for example, Taylor, 11 outputs (2009-12); Chrismas, 9 outputs (2010-13); Peart, 8 outputs (2011-13); Hillman, 4 outputs (2011-3) and Barnett, 3 outputs (all 2013). Hosting the student conference of the British Association of Sport and Exercise Sciences (2009) and subsequently developing an annual SHES undergraduate student thesis conference (supported by a University teaching and learning funding) formed an important strategy of recruiting postgraduate researchers. SHES often provides fee waiver for its undergraduate students of distinction (for example, Allanson, Gale, Gleadall-Siddal, Jackson). The planned

development of postgraduate taught programmes for 2013/4 will also further enhance the research environment.

The University provides significant support for postgraduate students through the Graduate School, which is housed in a dedicated building, encouraging interdisciplinary exchanges among postgraduates and offering further workspaces and 24 hour IT facilities. All research students undertake the 60 credit Postgraduate Training Scheme (PGTS) incorporating wide portfolio of modules designed to improve employability. It is also University policy that all staff undertake compulsory specialist training in postgraduate support. Credits are awarded for conference presentations, publication of research papers by PhD students and an annual 'PhD Experience' conference (www2.hull.ac.uk/student/graduateschool/phdexperience.aspx), organised by students, is hosted by the Graduate School. An innovative online Graduate Virtual Research Environment (www2.hull.ac.uk/student/graduateschool/researchstudents/thegvre.aspx) illustrates individual research achievements and advice on all aspects of the research degree journey. The University also promotes the use of the Researcher Development Framework (RDF), developed by Vitae.

Table 1. PGR development in SHES 2008/9 to 2012/3.

Year	PhD FTEs	PhD Headcount	PhD Completions
2008/09	5.99	9	1
2009/10	5.16	9	3
2010/11	8.21	14	3
2011/12	11.29	15	1
2012/13	15.39	26	8

d. Income, infrastructure and facilities

SHES has been able to demonstrate modest success in attracting external funding from a range of sources, with a total (all years) research income increasing from 89.9K to over 270.0K. Some contribution from UK Charities (open competition) and related sources is an emerging feature of external research income compared to RAE2008. Moreover, staff have made an increasingly important contribution to numerous prestigious University-wide external research income awards and projects. Indeed, collaboration with colleagues from HYMS has provided access to substantive funding to support multidisciplinary projects (with physiological measurement and clinical exercise testing/training components). In conjunction with Academic Cardiology, **Ingle** was principal investigator on the British Heart Foundation funded (48.3K) pilot study on the experiences of air travel in patients with chronic heart failure. **Ingle, Carroll** and PhD candidate (Nichols) work extensively with Cleland (Academic Cardiology) on the Heartcycle (http://www.heartcycle.eu/) Guided Exercise Study (GEx) study, a multicentre European trial of cardiac management (co-ordinated by Phillips Healthcare) and supported by the EU 7th Framework Programme. **Nabb** is co-investigator on a National Institute Health Research (NIHR) research for patient benefit award (Johnson, HYMS £230.0 K) - a multicenter RCT of breathing training for patients with intra-thoracic malignancy. **Nabb** and Cleland (Academic Cardiology and Frizzelle, Clinical Psychology) have also attracted funding from the Breathlessness Research Charitable Trust for research in Heart Failure. **Nabb** continues to cooperate on a National Cancer Research Institute Supportive and Palliative Care grant (with Johnson, HYMS).

In successive years (2008/9/10), **Vanicek** received the Owen Shaw Award (totalling 9.0K) from the Circulation Foundation for collaborative research in prosthetic rehabilitation. **Vanicek** was co-investigator (with Chetter, Academic Vascular Surgery) on two grant awards (Royal College of Surgeons England/Edinburgh and Dunhill Medical Trust 50.0K; BUPA Foundation 90.0K). Further, two separate awards (totalling 15.0K) from Hull and East Yorkshire NHS Trust were secured to examine the effects of exercise in vascular claudicants. In 2009, **Vanicek** was co-investigator on a Medical Research Council (MRC) collaborative development network award (42.0K) on Psychomotor Health – Lifelong Health and Well-being Cross Council Initiative (with Fagan, Centre for Medical Engineering). This collaboration with Medical Engineering, also secured an Osteoporosis Research in East Yorkshire (OSPREY) grant award (54.0K) in 2010, to investigate

musculoskeletal function in women with osteoporosis. **Carroll** and Hobkirk are co-investigators with Whitelaw (Bradford NHS Teaching Hospitals Trust) on an observational study of cardiac risk using non-invasive coronary computed tomography imaging within Type 1 diabetics, funded (10.0K) by Astra Zeneca Pharmaceuticals. Research income from local professional soccer and rugby league organisations (27.0K and 52.6K, respectively) has been utilised to create a series of departmental PhD and MSc studentships and improve research infrastructure for sport science support for local sporting organisations.

The department in reviewing its strategies for increasing UK research council/charity and other research income including; continued collaboration with successful University and clinical collaborators (as outlined above); departmental writing groups for grant calls; exploiting opportunities provided by specialist facilities and equipment (for example, environmental chamber) and involvement in cross-university initiatives (HONEI and Centre for Telehealth). Strategies for increasing external research income also involve KTP's, sponsored studentships by local sporting organisations and other opportunities (notably, Technology Strategy Board and Yorkshire Innovation Fund applications). In this respect, closer working relationships are being developed with the University Research Office and Enterprise Centre.

Infrastructure and facilities

The University has committed significant financial support to provide a productive research environment – building on earlier core University funding and research capital through SRIF2/3 (787k). SHES was relocated to the Don and Washburn buildings in 2009, to consolidate and provide state-of-the-art facilities for research and teaching. This infrastructure investment (£2 million) included new teaching rooms and 2 large dedicated research laboratories for sport and exercise science. In 2010, the University invested a further 250K in a bespoke high-specification environmental chamber. In 2012, a two-laboratory mezzanine floor development, including a dedicated SHES postgraduate centre was completed within the separate SHES Health and Human Performance Laboratory (780m^2) at a cost of over 450K. Since 2008, the University has also invested over 360K in additional laboratory equipment to support the sport and exercise sciences. The SHES laboratories are supported by 4.0 FTE members of trained technical personnel.

Adjacent biochemistry laboratory facilities include numerous biochemical analysers such as an Immulite 1000 and ABXPentra400 immunoassay systems, Sysmex blood cell analyser and flow cytometer. The extensive Health and Human Performance Laboratory contains multiple force plates, integrated a 20 high-speed camera system (Mocap), EMG (Noraxon), and dynamic Computerized dynamic posturography/balance (NeuroCom Smart Equitest) and isokinetic dynamometry (Biodex) systems. Recent equipment acquisitions (Innocor® metabolic cart, Panasonic Cardiohealthstation® and integrated Case ECG/metabolic cart (together >100K) now allow the integration of cardiac, vascular and expired gas re-breathing facilities for non-invasive real-time imaging of the circulation/vasculature and cardiac performance. Additional investment has extended the 'Coach and Athlete Behaviour' Laboratory. This laboratory now contains 10 desktop and 10 laptop computers, 10 video cameras, and 10 digital dictaphones. The computers are equipped with software that allows for both the quantitative and qualitative analysis of coach and athlete behaviour (e.g., SportsCode, NVivo version 9). In addition to assisting with the analysis of data, the laboratory is also used to host on-campus interviews and research focus-groups. The annual department budget for research-related equipment is currently over £100.0K, with ~£55.0K available for consumable expenditure. SHES has access to the University's analytical and imaging facilities including: electron microscopes, High Performance Liquid Chromatography (HLPC), mass spectrometers, NMR spectrometers, MRI and confocal microscopes. Library and Learning Innovation's, together with the Research and Enterprise Office and the Information and Communication Technology Department provides activities and services supporting research and researchers. This includes research grant applications, management of awarded projects and the management, dissemination and preservation of research outputs, both publications and data, through the Hydra institutional digital repository (in liaison with the Converis research information system).

e. Collaboration and contribution to the discipline or research base

EHHP group (**Carroll, Ditroilo, Fogarty, Ingle, Matsakas, Nabb, Vanicek, Vince**);

The work of **Ingle** and **Carroll** examining the role of maximal cardiopulmonary exercise testing and exercise training in the secondary prevention of CVD has been augmented by strong links with Cleland's Group (Lifelab database, Academic Cardiology, HYMS) and access other well-established epidemiological databases, including both the English and Scottish Health Surveys (with Hamer and Stamatakis, University College London). Over the last 5-6 years, 14 outputs on patients with cardiovascular disorders have been published with colleagues in Academic Cardiology, HYMS. Several outputs from this collection have been cited within contemporary scientific statements, notably those of the American Heart Association and Joint European Society of Cardiology guidelines. Complimentary work by **Ingle** and Hobkirk has included heart failure outputs with international partners (Damy, Université Paris; Frankenstein, Heidelberg). **Nabb** (also working with Johnson, HYMS) provides a psychological perspective to the area by integrating self-rated health and symptoms with prognostic risk. **Carroll's** numerous systematic reviews/meta-analysis outputs on the effects of exercise on female bone health (with Martyn-St James, Sheffield) have been cited extensively and several were included in the Musculoskeletal Health section of the US Physical Activity Guidelines Advisory Committee Report (2008). This meta-analysis work has been incorporated within other consensus expert statements and world congress keynotes on the non-pharmacological management of osteoporosis.

Carroll, Ingle and **Vince** have overseen numerous clinical and community-based exercise training interventions and observational studies, including multi-disciplinary collaborative projects in healthy adults (Nuffield Health and Wellbeing PLC, Manchester), premenopausal obese females (Marshall & Tan, Universities of Leeds, Leeds Teaching Hospitals NHS Trust), polycystic ovarian syndrome (Atkin, Aye, Sathyapalan; Hull Royal Infirmary, HYMS), Type 2 diabetics (Nagi, Pinderfields NHS Hospital Trust) and large prospective cohorts of cardiovascular disease patients ('Heartwatch', Leeds City Council and Witte, Leeds General Infirmary NHS Trust). **Carroll** and Hobkirk (with colleagues in HONEI) are investigating lifestyle and pharmacological interventions on adipose tissue and adipokines, within an emerging international project with Cianflone [Canada Chair in Adipose Tissue Metabolism] and Tchernof, both University of Laval, Canada), Stover (Leicester) and Pemberton (Manchester). **Vince** and colleagues have focused on various immune, oxidative, inflammatory and vascular stress responses to exercise and environmental stressors, including the influence of supplementation and ergogenic aids. Environmental research (over 20 outputs since 2008) examining the effects of hypoxia, hyperbaric oxygen therapy, heat stress and simulated scuba diving) have been completed in conjunction with colleagues in Biological and Biomedical Sciences (Madden), HYMS (Kahal) and with Laden (Hyperbaric Medical Unit, Hull and East Riding Hospital). **Fogarty's** early work (with Davison and McEneny, Belfast, UK) has identified lipid peroxidation and lipid-derived free radical species as potential contributors to peripheral mononuclear cell DNA damage in the human exercising model. **Carroll** and Hobkirk's early collaboration with Soran (Lipid Research Group and Cardiovascular Clinical Trial group, Manchester NHS Teaching Hospitals Trust) combined with **Fogarty's** links (McEnerny, Belfast) will allow future advanced work on exercise and lipoprotein-lipid biochemistry. **Matsakas'** provides expertise in skeletal muscle molecular physiology. High profile work on the metabolic and functional rodent muscle adaptations to differing patho/physiological stimuli (including exercise and nutrition) has been undertaken with Narkar, Texas, US and Patel, Reading). Early papers on have been editorialised (Gadeau & Arnal [2012] *Circulation Research* 110 (8) 1042-4 and Yamada [2012] *Experimental Physiology 97,* 562-563)**.** Other invited contributions, include textbooks (*Encyclopedia of Exercise Medicine in Health and Disease, 2012; Mooren [ed])* and prestigious symposia presentations (Federeration of American Societies for Experimental Biology, symposia, Colorado, 2012). Invited editorials have also been undertaken on molecular advances in health and disease (*Experimental Physiology 2009;* 94 (12): 1161-1162). **Vanicek** has collaborated extensively with the Academic Vascular Surgery Unit, Hull Royal Infirmary (Chetter and Coughlin [now, Cambridge]), on musculoskeletal biomechanical adaptations and fall risk in transtibial amputees (8 outputs, 2008-13). This partnership has also published on functional capacity, gait and posture (and following exercise interventions) in patients with peripheral arterial disease (6 outputs, 2010-3). Ongoing work on the altered biomechanics and gait in osteoporosis (with Fagan, Centre for Medical Engineering) is developing a fundamentally new concepts of musculoskeletal function. **Ditroilo's** work (with De Vito, UC Dublin) is at the forefront of examining the mechanical

properties of the muscle-tendon unit (musculo-articular stiffness and muscle stiffness), specifically the free-oscillation technique for stiffness assessment and sources of variability (Ditroilo et al. (2011) *Sports Medicine* 41 (12); 1019-32). Overall, EHHP staff have published over 150 peer-reviewed scientific publications in the period 2008-2013, with multiple contributions to some of the higher impact factor journals across the disciplinary areas of sport and exercise science; including, Sports Medicine (x2); Medicine and Science in Sports and Exercise (x5); Applied Physiology, Nutr. Metab (x3); Euro. J. of Applied Physiology (x3); International Journal of Sports Medicine (x4); Gait and Posture (x4); J. of Electromyo. and Kinesiol (x4); J. of Sports Science (x3); J. of Strength and Conditioning Res (x3) and Experimental Physiology (x2 contributions), among others.

The SPP group: (**Gilbourne**, **Nabb**, **Nelson**, **Potrac** [to Oct, 2013],**Toner**)
The SPP group are social scientists specialising in the progression of qualitative methodologies, critical perspectives on applied practice, the development of research-pedagogy links and the illustration of innovative approaches to research dissemination. Potrac (2008-2013) led internationally recognised work (with Jones, Cardiff Metropolitan), including peer-reviewed papers and edited textbooks on the emotional and micro-political nature of practice in coaching and coach education settings. **Gilbourne** has contributed to the development of critical themes (and processes) associated with reflective-practice (with Knowles, Liverpool John Moore's [LJMU]) and has contested applied practice in sport psychology (with Andersen, Victoria, Australia). Other work includes reflexive methodologies through auto-ethnographic narratives and ethno-drama performance (with Llewellyn, LJMU and **Toner**). **Gilbourne** co-founded *Qualitative Research in Sport, Exercise and Health* (2009) and founded/developed *International Conferences in Qualitative Research in Sport* (2004, 2006, 2009). In collaboration with Cushion (Loughborough), Groom (Manchester Metropolitan), Potrac (now Edge Hill), **Toner, Gilbourne and Nelson's** writing has; specialised and developed understanding on the relationships between psychological and sociological theory, explored different approaches to the research process and progressed critical thinking on pedagogical practice/learning in coach education. The SPP group have collectively published over 40 peer-reviewed scientific publications, 4 books and over 20 book chapters in the period.

The previously outlined (RAE2008) research strategy incorporated a developmental internationalisation agenda. Subsequently, numerous invited oral presentation have been undertaken at international meetings, including Joint British Cardiovascular Society/Mayo Clinic, Royal College of Physicians, London (2013); European Society of Cardiology - Heart Failure, Gothenburg (2012); EuroPrevent, European Cardiovascular Society (2012); European College of Sports Science, Liverpool (2012); International Convention on Science, Education and Medicine in Sport, Glasgow (2012); NSW Physiotherapists in Amputee Rehabilitation, Australia (2012, 2013); British Association Chartered Physiotherapists in Amputee Rehabilitation (2009); FASEB, Colorado US, (2012), and for research groups within numerous universities (including, University of Urbino, Italy; University College Dublin, Ireland; Reading, UK). Presentations at qualitative methodological and pedagogy symposia (including Copenhagen 2009, 2010) and visiting professorial posts (Cardiff Metropolitan, LJMU, Copenhagen, Queensland and Tasmania Universities) have likewise contributed to the standing of qualitative methodology nationally and internationally.
SHES staff review for a large range of national and international grant awarding bodies, including the Medical Research Council, Biotechnology and Biological Sciences Research Council, National Institute for Health Research Programme Grants (Applied Research and for Patient Benefit). Likewise, staff have peer-reviewed extensively for journals across their respective disciplinary areas (including Am. J. Physiol., Brit. J. Sport Med., Eur. J. Appl. Physiol., Exp. Physiol., Int. J. Sports Med., J. Appl. Physiol., J. Physiol., Med. Sci. Sports Exerc.).
SHES staff are members of one or more professional bodies and many hold chartered status. Staff are currently on the editorial boards of the following journals; *Research in Sports Medicine, Open Heart Failure Journal, Case Studies in Cardiology, Journal of Strength and Conditioning, Qualitative Research in Sport, Exercise and Health and Sports Coaching Review*. Staff have examined PhD candidates for the following Universities with the period; Exeter, Ottawa (Canada), Auckland (New Zealand), Brighton, Essex, Leeds, Leeds Metropolitan, LJMU, Loughborough, Manchester, Queensland (Australia) and Warwick.