



SPORT AND EXERCISE SCIENCES  
RESEARCH INSTITUTE  
ANNUAL REPORT  
1 AUGUST 2006 - 31 JULY 2007

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## I. FOREWORD BY THE PRO VICE CHANCELLOR (RESEARCH AND INNOVATION)



I am delighted to welcome readers to our annual reports from University of Ulster Research Institutes. We have had an excellent year marked by great achievements in recruiting superb researchers to academic and research posts, attracting external income and completing work that has led to highly prestigious papers, books and other outputs. There has been a very strong flow of research findings as new disclosures to our Office of Innovation. These are being managed as promising new intellectual property and that Office also ensures that the expertise of our staff is accessed by external organisations through consultancy contracts. Overall our Institutes provide

high quality research environments that are strongly supportive of research. Our achievements point to improved research capacity and capability amongst the University's staff – the best possible training environments for our increasing number of research students. We are very proud of every student who graduates with a doctoral degree and delighted that our statistics for successful completion rank very highly in UK national comparisons.

This past year was marked by final preparations for the forthcoming UK Research Assessment Exercise (RAE). The work to be submitted for RAE has been underway since 2001, so some of it is detailed in the current Annual Reports. The University is proud of the quality of its RAE submission and looks forward confidently to the announcement of outcomes at the end of 2008.

The enhanced research performance of recent years is in line with that planned for in our Strategy and Action Plan for Research, Research Training and Innovation, entitled SUPPORTIVE<sup>1</sup>. Developed through comprehensive, university-wide consultation, SUPPORTIVE articulates our commitment to ensuring that research at the University of Ulster fully supports our goals summarized as '*excellence, innovation and regional engagement*'.

I commend this report to you as a demonstration that University of Ulster research ranks proudly amongst UK institutions; documents, analyses and shapes the modern Northern Ireland and attracts international recognition and awards.

Professor BM Hannigan  
Pro Vice Chancellor (Research & Innovation)

<sup>1</sup> <http://research.ulster.ac.uk/office/supportive.pdf>

## **2. FOREWORD BY THE RESEARCH INSTITUTE DIRECTOR**

The research activities of the Sport and Exercise Sciences Research Institute (SESRI) have continued to develop over the period covered by this annual report. Significant progress has been made in our three key research areas of Exercise and Health, the Social Sciences of Sport and Sports Sciences/ Engineering. The academic staff complement of the Research Institute membership has grown, with the welcome addition of 1 new associate member (Gavin Breslin) giving a total staff membership of 9, including Professor Colin Boreham, who despite taking early retirement in 2006, has remained as a Visiting Professor at Ulster and Associate member of SESRI.

The establishment of the new School of Sports Studies on 1 August 2006, provided an excellent platform for future developments and is strong evidence of the University's commitment to Sport, with research firmly identified as a central feature of the UU Academy of Sport launched in late 2006. The enrolment of 2 new postgraduate research students brings our current total complement to 17, which provides further evidence of our commitment to postgraduate research education and training. During the year under review we also had another successful PhD completion within the specified DEL completion period maintaining our 100% completion record.

External research funding remains an area for our focussed attention, and despite a high number of quality applications to mainly Health and Social Services and Charities, as well as some to the Research Councils, our success rate was very modest. The research output of the core members has progressed most favourably, with all members now having high quality publications for submission to RAE 2008, while the recently appointed staff, as associate members, have been successful with some publications with further submissions planned for the forthcoming year. The research esteem of the members has also continued to be externally recognised, with a number of accolades extending from invited research keynotes to key editorial positions and roles with professional and scientific bodies.

In summary, SESRI remains committed to the University objective of Excellence, Innovation and Regional Engagement, and will strive to further this aim through high quality and relevant research in the important domain of sport and exercise.

Dr Eric Wallace  
Director SESRI

<http://www.science.ulster.ac.uk/sesri/>

### 3. RESEARCH INSTITUTE MEMBERS

Surname	Forename	Title	Position
<b>Allen</b>	Dean	Mr	Lecturer in Social Science of Sport
<b>Breslin</b>	Gavin	Dr	Lecturer in Sport and Exercise Science
<b>Darby</b>	Paul	Dr	Lecturer in Sociology of Sport
<b>Davison</b>	Gareth	Dr	Lecturer in Sport & Exercise Physiology
<b>Hassan</b>	David	Dr	Lecturer in Sports Studies
<b>MacIntyre</b>	Tadhg	Dr	Associate Lecturer in Sport & Exercise Psychology
<b>Murphy</b>	Marie	Dr	Senior Lecturer
<b>Wallace</b>	Eric	Dr	Reader in Sport, Exercise and Leisure
<b>Boreham</b>	Colin	Prof	Visiting Professor of Sport and Exercise Science

## 4. RESEARCH STUDENTS

<b>Name</b>	<b>Brooks, Rachel</b>
<b>Title of Project</b>	Women, sport and identity in Ireland
<b>Grant Source</b>	DEL
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>Brown, Susan</b>
<b>Title of Project</b>	Biomechanical Swing Analysis of Elite Female Golfers
<b>Grant Source</b>	Napier University (Staff Development)
<b>Country of Origin</b>	Scotland

<b>Name</b>	<b>Fogarty, Mark</b>
<b>Title of Project</b>	Exercise induced oxidative DNA modification
<b>Grant Source</b>	DEL Ulster
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>Hegarty, Lynda</b>
<b>Title of Project</b>	The tracking of physical activity and attitudes in teenage girls
<b>Grant Source</b>	Self or Parent
<b>Country of Origin</b>	Ireland

<b>Name</b>	<b>Hughes, Lynette</b>
<b>Title of Project</b>	Investigation into the incidence and aetiology of burnout in male Gaelic football players
<b>Grant Source</b>	DEL/CAST (GAA)
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>Hunter, Judith</b>
<b>Title of Project</b>	Football & Society: Intra Community Rivalry
<b>Grant Source</b>	Self or Parent
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>McClellan, Conor</b>
<b>Title of Project</b>	Exercise and metabolic disturbances: effects on oxidative stress and muscular functions
<b>Grant Source</b>	VCRS
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>McCloy, Alex</b>
<b>Title of Project</b>	Experimental and simulation study of iron golf shots using iron golf clubs
<b>Grant Source</b>	DEL/CAST (R&A)
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>McKee, David</b>
<b>Title of Project</b>	Physical activity in childhood
<b>Grant Source</b>	Self/Stranmillis
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>McNeilly, Andrea</b>
<b>Title of Project</b>	The effects of daily brisk walking on diabetes and cardiovascular disease risk in obese subjects
<b>Grant Source</b>	DEL
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>Meade, Mary Margaret</b>
<b>Title of Project</b>	The etiological significance of sport and physical activity in the risk profile for eating disorders
<b>Grant Source</b>	Ulster
<b>Country of Origin</b>	Ireland

<b>Name</b>	<b>Moore, Stephen</b>
<b>Title of Project</b>	Gaelic games and the Irish diaspora
<b>Grant Source</b>	DEL
<b>Country of Origin</b>	Ireland

<b>Name</b>	<b>Moreland, Elizabeth</b>
<b>Title of Project</b>	An examination of the relationships between sport and national identity in the Republic of Ireland
<b>Grant Source</b>	DEL Ulster
<b>Country of Origin</b>	Northern Ireland

<b>Name</b>	<b>Morgan, Therese</b>
<b>Title of Project</b>	Effects of accumulated walking in cardiovascular risk in obesity.
<b>Grant Source</b>	DEL
<b>Country of Origin</b>	Ireland

<b>Name</b>	<b>Tuinea-Bobe, Christina</b>
<b>Title of Project</b>	Early detection of pressure ulcers using multi-parametric methods.
<b>Grant Source</b>	Marie Curie Grant
<b>Country of Origin</b>	Romania

<b>Name</b>	<b>Ward, Julian</b>
<b>Title of Project</b>	Football & Society
<b>Grant Source</b>	DEL Ulster
<b>Country of Origin</b>	UK

<b>Name</b>	<b>Weekes, Karen</b>
<b>Title of Project</b>	Cognitive profiles of elite and ultra-endurance athletes and adventurers.
<b>Grant Source</b>	Tralee IT
<b>Country of Origin</b>	Ireland

## 5. RESEARCH PUBLICATIONS

### ALLEN

ALLEN, D., 2007. 'Tours of Reconciliation: Rugby, War and Reconstruction in South Africa, 1891-1907', *Sport in History*, 27 (2), pp 172-189.

### BOREHAM

Anderson, L.B., BOREHAM, C.A.G., Young, I.S., Smith, G.D., Gallagher, A.M., Murray, L. and McCarron, P., 2006. 'Insulin sensitivity and clustering of coronary heart disease risk factors in young adults. The Northern Ireland Young Hearts Study', *Preventative Medicine*, 42 (1), pp 73-77.

BOREHAM, C., 2006. 'Physical Activity for Health' (Editorial), *Journal of Sports Science*, 24, pp 1-2.

Ferreira, I., BOREHAM, C. and Stehouwer, C.D.A., 2006. 'The benefits of exercise for arterial stiffness', *American Journal of Hypertension*, 19, pp 1037-1038.

Ferreira, I., BOREHAM, C., Twisk, J., Gallagher, A., Young, I., Murray, L. and Stehouwer, C., 2007. 'Clustering of metabolic syndrome risk factors and arterial stiffness in young adults. The Northern Ireland Young Hearts Project', *Journal of Hypertension*, 25 (5), pp 1009 -1020.

Gallagher, A.M., Robson, P.J., Livingstone, M.B.E., Cran, G.W., Strain, J.J., Murray, L.J., Savage, J.M. and BOREHAM, C., 2006. 'Tracking of energy and nutrient intakes from adolescence to young adulthood: the experiences of the Young Hearts Project, Northern Ireland', *Public Health Nutrition*, 9 (8), pp 1027-1034.

Kennedy, R.A., BOREHAM, C., Murphy, M.H., Young, I. and Mutrie, N., 2007. 'Evaluating the effects of a low volume stairclimbing programme on measures of health related fitness in sedentary office workers', *Journal of Sports Science Medicine*, 6, pp 448-454.

Meirhaeghe, A., BOREHAM, C., Murray, L. et al., 2007. 'A possible role for the PPARG Pro12ALA polymorphism in preterm birth', *Diabetes*, 56, pp 494-498.

Murphy, M.H., Murtagh, E., BOREHAM, C., Hare, L. and Nevill, A.M., 2006. 'The effect of a worksite based walking programme on cardiovascular risk in previously sedentary civil servants', *BMC Public Health*, 6:136.

Mutunga, M., Gallagher, A.M., BOREHAM, C. et al., 2006. 'Socioeconomic differences in biological and behavioural risk factors for obesity in a representative sample of adolescents from Northern Ireland', *International Journal of Pediatric Obesity*, 1 (2), pp 114-119.

Stanisawska-Sachadyn, A., Liselotte, E., Jensen, C.K., Woodside, J.V., Young, I.S., Scott, J.M., Murray, L., BOREHAM, C.A., McNulty, H., Strain, J.J. and Whitehead, A.S., 2006. 'Association between the NAT1 C1095A polymorphism and homocysteine concentration.' *American Journal of Medical Genetics, Part A*, 140A (21), pp 2374-2377.

### BRESLIN

BRESLIN, G., Hodges, N.J., Williams, A.M., Kremer, J. and Curran, W., 2006. 'A comparison of inter-limb relative motion information in modelling a novel motor skill', *Human Movement Science*, 25 (6), pp 753-766.

Hodges, N.J., Williams, A.M., Spencer, J., BRESLIN, G., 2007. 'What is modelled during observational learning?' *Journal of Sports Sciences*, 25 (5), pp 531-545.

## DARBY

DARBY, P., Akindes, G. and Kirwin, W., 2007. 'Football Academies and the Migration of African Football Labor to Europe', *Journal of Sport and Social Issues*, 31 (2), pp 143-161.

DARBY, P. and Hassan, D., 2007. 'Locating Sport in the Study of the Irish Diaspora', *Sport in Society*, 10 (3), pp 333-346.

DARBY, P., 2007. 'Gaelic Games, Ethnic Identity and Irish Nationalism in New York City c.1880-1917', *Sport in Society*, 10 (3), pp.347-367.

King, S. and DARBY, P., 2007 'Becoming Irlandés: Hurling and Irish Identity in Argentina', *Sport in Society*, 10 (3), pp 425-438.

DARBY, P., 2007. 'Review of Laduma! Soccer, Politics and Society in South Africa' (University of KwaZulu-Natal Press, 2004) by Peter Alegi, *Sport in Society*, 10 (2), pp 306-310.

## DAVISON

DAVISON G.W., Morgan, R.M., Hiscock, N., Garcia, J.M., Grace, F., Boisseau, N., Davies, B., Castell, L., McEneny, J., Young, I.S., Hullin, D., Ashton, T. and Bailey, M., 2006. 'Manipulation of systemic oxygen flux by acute exercise and normobaric hypoxia: implications for reactive oxygen species generation', *Clinical Science*, 110 (1), pp 133-141.

McClellan, C.M., McLaughlin, J., Burke G., Murphy, M.H., Trinick, T, Duly, E., and DAVISON. G.W., 2007. 'The Effect of Acute Aerobic Exercise on Pulse Wave Velocity and Oxidative Stress Following Postprandial Hypertriglyceridemia in Healthy Men', *European Journal of Applied Physiology*, 100 (2), pp 225-234.

## HASSAN

HASSAN, D., 2006. 'An Opportunity for a New Beginning: Soccer, Irish Nationalists and the Construction of a New Multi-Sports Stadium for Northern Ireland'. *Soccer & Society*, 7 (2-3), pp 339-352.

HASSAN, D., 2006. 'Sport, Identity, and the People of the Irish Borderlands'. *New Hibernia Review*, 11 (2), pp 4-30.

HASAN, D., 2007. 'An examination of the Migratory Patterns of Irish Nationals throughout Europe with a focus upon the role of the GAA', *Sport and Society*, Special Issue: 'Sport and the Irish Diaspora', 10 (2).

Darby, P. and HASAN, D., 2007. 'Locating Sport in the Irish Diaspora', *Sport and Society*, Special Issue: 'Sport and the Irish Diaspora', 10 (2).

Mulvenna, M., Farren, N., O'Neill, K. and HASSAN, D., 2007. 'Sporting Organisations and the Role of Internet-based Sports Management Systems', *Journal of Sports Management and Marketing*, 1 (2).

## MURPHY

Anderson, A.G., MURPHY, M.H., Murtagh, E. and Nevill, A., 2006. 'An 8-week randomized controlled trial on the effects of brisk walking, and brisk walking with abdominal electrical muscle stimulation on anthropometric, body composition and self-perception measures in sedentary adult women', *Psychology of Sport and Exercise*, 7, pp 437-451.

MURPHY, M.H., Murtagh, E.M., Boreham, C.A.G., Hare, L.G. and Nevill, A.M., 2006. 'The effect of a worksite based walking programme on cardiovascular risk in previously sedentary cavity servants', *BMC Public Health*, 6:136.

MURPHY, M.H., Neville, A.M., Murtagh, E.M. and Holder, R.L., 2007. 'The effect of walking on fitness, fatness and resting blood pressure: A meta-analysis of randomised, controlled trials', *Preventive Medicine*, 44 (5), pp 377-385.

McClellan, C.M., McLaughlin, J., Burke G., MURPHY, M.H., Trinick, T., Duly, E., and Davison, G.W., 2007. 'The Effect of Acute Aerobic Exercise on Pulse Wave Velocity and Oxidative Stress Following Postprandial Hypertriglyceridemia in Healthy Men', *European Journal of Applied Physiology*, 100 (2), pp 225-234.

## WALLACE

WALLACE, E.S., 2006. 'Synopsis of Current Developments: Biomechanics'. In Moritz E.F. and Haake S., *The Engineering of Sport 6*, Vol 2, pp 3-4, Springer: New York.

Kenny I., WALLACE, E.S., Brown, D. and Otto, S.R., 2006. 'Validation of a full-body computer simulation for the golf drive for clubs of different length'. In Moritz E.F. and Haake S., *The Engineering of Sport 6*, Vol 2, pp 11-16, Springer: New York.

McCloy, A.J., WALLACE, E.S. and Otto, S.R., 2006. 'Iron Golf Club Striking Characteristics for Male Elite Golfers'. In Moritz E.F. and Haake S., *The Engineering of Sport 6*, Vol 2, pp 353-358, Springer: New York.

WALLACE, E.S., Otto, S.R. and Nevill, A., 2007. 'Ball launch conditions for skilled golfers using drivers of different lengths in an indoor testing facility', *Journal of Sports Sciences*, Vol 25 (7), pp 731-737.

## 6. RESEARCH FUNDING

Staff Name(s)	Title of Award	Funding Body	Value
<b>Darby</b>	Gaelic Games and the Irish Diaspora in North America, funded by	The British Academy 2005-2007	£5,426
<b>Hassan</b>	An investigation into the capacity of an international sporting event to aid social cohesiveness amongst a divided society: A focus on the Rally Ireland project	Rally Ireland	£2,175
<b>Hassan</b>	An investigation into the capacity of an international sporting event to aid social cohesiveness amongst a divided society: A focus on the Rally Ireland project	Rally Ireland	£3,600
<b>Murphy</b>	Evaluation of the effectiveness of the Healthwise Physical Activity Referral Scheme (sponsored research project)	Eastern Health and Social Services Board 2005-2008	£19,885
<b>Murphy</b>	Embedding employability skills development in the curriculum	Oxford Brookes University 2005-2007	£3,000
<b>Murphy and Haughey</b>	Evaluation of the effectiveness of playground activity in school playgrounds within EH & SSB	E.H.S.S.B 2007-2008	£11,195
<b>Wallace</b>	Evaluation of the use of putters of varying length	R&A Rules Ltd 2004-2007	£9,800
<b>Wallace and Brown</b>	DEL/CAST – Biomechanical and Modelling Analysis of Shaft Length Effects on Golf Driving Performance	R&A Rules Ltd 2004-2006	£17,250
<b>Wallace and Brown</b>	DEL/CAST – Experimental and simulation study of iron golf shots using iron golf clubs	R&A Rules Ltd 2004-2007	£30,000
<b>Wallace and Hassan</b>	DEL/CAST – Investigating the Incidence and Aetiology of Burnout in Gaelic Football Players	Ulster Council – GAA 2004-2008	£24,000

## 7. INDICATORS OF ESTEEM

### ALLEN

- Selection Panel for Lord Aberdare Book Prize for Sports History 2006
- Reviewer, *Sport in Society*
- Treasurer, British Society of Sports History
- Member, Australian Society of Sports History
- Member, North American Society of Sports History
- Member, International Society for the History of Physical Education and Sport
- Historical Advisor, Museum of Rugby, Twickenham and the South African RFU centenary celebrations

#### *Invited Presentations:*

- 'The 1906 Springboks', International Conference on South African Rugby. Rugby and Empire. England RFU, Museum of Rugby, Twickenham Stadium, London. September 2006.
- 'South African Cricket and the Expansion of Empire, 1888-1910', British Society of Sports History conference, St Martin's College, Lancaster. September 2006.
- 'Rebuilding a Nation', International Conference on Social Science in Sport. 8th ISHPES Seminar. Sport, Nation, Nationalism. Faculty of Sport Ljubljana, Slovenia. August 2006.
- 'Cricket and Empire in South Africa'. Seminar on International Cricket. Institute of Commonwealth Studies, University of London. March 2007
- 'Craven and Churchill', Invited Lecture. The Danie Craven Bursary Fund Dinner, House of Commons, London. November 2006

### BOREHAM

- Fellow of American College of Sports Medicine and European College of Sports Sciences
- Editorial Board Pediatric Exercise Science
- Invited Participant: BASES Consensus Statement Conference, London 2007
- Editorial Board Section Editor: *Journal of Sports Sciences*
- Editorial Board: *Pediatric Exercise Science*

### BRESLIN

- Reviewer: *Neuroscience Letters*
- Elected Committee Member: Northern Ireland Branch of the British Psychological Society, 2004-present.

### DARBY

- Editorial Board Member, '*Soccer and Society*', Taylor and Francis, 2005 – present
- Editorial Board Member, *Impumelelo: The Interdisciplinary Electronic Journal of African Sport*, 2004 - present

### DAVISON

- Advisory Board Member, *Journal of Sports Science* (Physical Activity and Health)
- Manuscript reviewer, *Medicine and Science in Sports and Exercise*; *Altitude Biology and Medicine*; *Clinica Chimica Acta*; *Pharmacological Research*; *British Journal of Sports Medicine*; *Free Radical Research*
- Consultant Exercise Scientist to Coca-Cola (Powerade brand)
- Successfully supervised 1 PhD student to completion.

## HASSAN

- Deputy Executive Academic Editor, *Sport in Society*, Frank Cass/Taylor & Francis
- Lead Researcher: global collaboration research project examining the social and economic impact of the World Rallying Championship
- Manuscript Reviewer: *The International Review for the Sociology of Sport*

## MACINTYRE

- Editorial Board Member, *International Review of Sport & Exercise Psychology*
- Reviewer, *Journal of Sport Sciences*
- Reviewer: *International Journal of Sport Psychology*

### *Invited Presentations:*

- 'Motor Cognition and Sport Psychology: Pathways for joint exploration'. Colloquia of the Stephen Kosslyn Cognitive Neuroscience Research Group, Department of Psychology, Harvard University, October 2006
- 'There's more to an image than meets the eye'. Symposium on Motor Cognition at the Psychology Society of Ireland, Annual Congress, November 2006
- 'Motor cognition - New Horizons for Imagery Research'. Invited keynote, Third International Sport Psychology Conference, University of Minho, Braga, Portugal, July 2007

## MURPHY

- Member of the Sports Council for Northern Ireland (2003-2007)
- Chair of Sports Council Facilities Committee (2003-2007)
- Fellow of American College of Sports Medicine
- Chair of the Board of Directors of Salto National Gymnastics Centre of Excellence
- PhD External Examiner – Loughborough University
- BASES accredited exercise physiologist
- Expert panel membership: BASES Consensus Panel on physical activity in the prevention of chronic disease, 2007
- Invited contributor: leading article on "Walking for Exercise and Cardiovascular Risk Factors", *Sports Medicine*

### *Invited Keynotes*

- 'Lifestyle physical activity for health', October 2006, British Diabetic Association Conference
- 'Accumulating physical activity for health', Sept 2006, British Association of Cardiac Rehabilitation Annual Conference
- Symposium organizer and contributor, "Walking for Health - Evidence, Interventions and Environments", ACSM Conference, New Orleans, 30 May - 2nd June, 2007

## WALLACE

- Napier University – Honorary Research Fellow
- International Sports Engineering Association - Executive Committee member
- International Sports Engineering Association, 5<sup>th</sup> and 6<sup>th</sup> International Conferences, member of scientific committee
- Sports Engineering (Research) Journal - Editorial Board
- Fulbright Commission - Research Grant Applications referee
- Nuffield Science Foundation- Research Grant Applications referee
- Journal of Sports Sciences - academic paper referee

- Member, International Society of Biomechanics
- R & A Rules Ltd - Biomechanics Research Adviser to Equipment Standards Committee
- The International Association of Science and Technology for Development - Technical Committee on Biomechanics
- Editorial Board, *Sports Engineering Journal*
- Invited Advisory Board Member: Innosport eu - Stepping up Economic and Technological Intelligence in Sport, FP6
- Expert reviewer– EPSRC
- Invited Lecture, 'Golf Science', World Congress of Science and Sports, LJMU, February 2007