



Peter Harrison Centre
for Disability Sport

Staff Profile

Vicky Tolfrey (nee Goosey)

Director of the Peter Harrison Centre for Disability Sport and Senior Lecturer in Physiology at the School of Sport and Exercise Sciences at Loughborough University.

Contact Details:

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Qualifications:

PhD entitled 'Pushing economy and wheelchair propulsion technique of wheelchair racers', from Manchester Metropolitan University in 1999.

BSc (Hons) in Sport Science from Manchester Metropolitan University in 1993 and was awarded the Exercise and Sport Science Department prize for best all-round Sport Scientist.

Research & Teaching Interests:

Vicky's research and teaching interests include: disability sport, wheelchair propulsion kinematics, elite sports performance physiology, exercise testing and interpretation, training and performance. She has several on-going International collaborations in disability sport, which include work with Dr Lucas van der Woude at the Free University of Amsterdam and Professor Liz Bressan from Stellenbosch University.

Previous Research & Experience:

After completing her BSc in Sport Science, Vicky was appointed as the Project Assistant for the British Wheelchair Racing Association (BWRA) whilst she completed her part-time PhD. After completion of the work with the BWRA, Vicky went on to work with the Great Britain Men's wheelchair basketball team for four years.

Vicky has provided extensive support to disabled athletes at both the Atlanta and Sydney Paralympics. Her work with the British Paralympic Association (BPA) has meant that she attended the Cyprus holding camp for Athens 2004 and is involved with the preparations for the Beijing 2008 Paralympic Games.

Selected External Research-Related Roles and Research Collaborations:

Invited reviewer for papers submitted to Adapted Physical Activity Quarterly, European Journal of Applied Physiology, International Journal of Sports Medicine, Journal of Applied Physiology, Journal of Rehabilitation Research & Development, Journal of Sports Engineering, Journal of Sports Sciences, Medicine and Science in Sports and Exercise.

- The Manchester Metropolitan University, UK: Prof. Neil Fowler, Prof. Joern Rittweger and Craig Boyd (wheelchair propulsion, spinal cord injury - bone health and CP football).
- University of Teeside, UK: Dr. Alan Batterham (Scaling and wheelchair athletes).
- Brighton University, UK: Dr. Nick Webborn and Dr. Paul Castle (Cooling strategies and wheelchair athletes).
- Coventry University, UK: Dr. Mike Price (Thermoregulation and spinal cord injury).
- RGK Wheelchair Manufactures, UK: Mr. Russ Simms (Director) (Equipment loan – Wheelchair).
- Liverpool John Moores University: Dr Barry Drust, Prof Tom Reilly and Prof Greg Atkinson (Disability football, anthropometry and wheelchair athletes, statistical advice (thermoregulation)).
- British Paralympic Association: Jeanette Crosland (Currently working on energy expenditure project and recent GSK nutritional profile of wheelchair athletes project).
- English Institute of Sport (Loughborough): Nik Diaper (Jet lag and wheelchair tennis).
- Free University, Amsterdam: Dr Lucas van der Woude (wheelchair propulsion).
- German Sport University, Cologne: Dr Thomas Abel (Invitation to expert hand cycling interest group).
- Stellenbosch University, South Africa: Prof. Liz Bressan (co-supervision of MSc student).
- University of Pittsburgh, Prof. Rory Cooper (wheelchair activity logger).

Recent External Income Generation:

2009 -11	Research Grant with Great Britain Wheelchair Basketball Association.
2009	Healthcare and Biosciences iNET - Research project to develop new training tools for spinal cord injury participants - £26,069.
2008-10	British Paralympic Association (Studentship Sponsor).
2007-10	UKSport Graduate Innovation Programme Studentship with the British Paralympic Association - £100,000
2006-08	GlaxoSmithKline Nutritional Healthcare – Research project to examine the dietary habits of competitive wheelchair athletes - £15,000
2005-08	British Tennis Federation – Applied Research - £75,500

Research areas from the funded work to date:

- Kinematic and kinetic analysis of wheelchair propulsion and free throw technique - implications for players of varying classifications.
- Pushing economy and wheelchair propulsion technique.
- Training methods and the use of heart rate guidelines in wheelchair racers.

- Instrumentation for measurement of intra-push velocity in wheelchair racers.
- Physiological profiles of wheelchair sub-populations in preparation for major championships.
- Biomechanics and energetics of basketball wheelchairs evolution.
- Cooling strategies, physiology and performance.
- Nutritional and anthropometric aspects of wheelchair athletes.
- Wheelchair configurations and performance.

Selected Invited Conference Keynote and Speaker Presentations:

Goosey-Tolfrey, V.L. (2009). *Applied research to support the Paralympic wheelchair athlete preparing for Beijing*. Invited presentation at the University of Alberta, Canada., 22 October 2009.

Goosey-Tolfrey, V.L. (2009). *Wheeled Sports*. Invited presentation at the 4th International State-of-the-Art Congress organised by MOVE research institute at the Vrije University in Amsterdam, 7-9th April 2009.

Goosey-Tolfrey, V.L. (2006). *Applied Sport Science Research in Paralympic Sport*. Invited presentation at Stellenbosch University, October 2006.

Goosey-Tolfrey, V.L. and Payton, C. (2005). *The use of velocity meters as training tools for performance enhancement*. Invited presentation at the World Class Coaching Conference, Belfry, England, 23-24th November.

Goosey-Tolfrey, V.L. (2005). *Research status in hand biking in the UK and research interest areas of special interest concerning the hand bike*. Invited presentation at the International meeting 'Hand bike', Germany, 22nd September, 2005.

Goosey-Tolfrey, V.L. (2005). *Cardiovascular Fitness and Wheeled Mobility*. Invited presentation at the International Conference on Posture & Wheeled Mobility (Exeter, England), 18th April 2005.

Goosey-Tolfrey, V.L. and Adepitan, A. (2001). *Shooting for success: The contribution of sport science to wheelchair basketball performance*. Invited keynote presentation at the BASES and BOA Symposium: Winning Medals: The Contribution of Sport Science, Manchester Metropolitan University.

Membership & Involvement with Professional Bodies/Associations:

Vicky is a re-accredited physiologist and interdisciplinary sport scientist with the British Association of Sport and Exercise Sciences (BASES). She received the award for 'Outstanding Contributions to Applied Practice' at the BASES 2005 Annual Conference, which recognises Vicky's work in supporting athletes at Paralympic level.

Vicky is currently the Lead Physiology Consultant for the BPA and also serves on the International Paralympic Committee as a member of the Sport Science Committee. She also acts as the Physiology Consultant for the British Tennis Federation.

Selected Recent Publications:

Andrews, B., Goosey-Tolfrey, V. and Bressan, E.S. (2009). The classification of sprinters with intellectual impairments: A preliminary analysis. *South African Journal for Research in Sport, Physical Education and Recreation*. 31(2):1-14.

Diaper, N and Goosey-Tolfrey, V.L. (2009). A physiological case study of a paralympic wheelchair tennis player: reflective practise. *Journal of Sport Science and Medicine*. 8 (2): 300-3007.

Lenton, J.P, Woude, van der L.H.V., Fowler, N.E., Goosey-Tolfrey, V.L. (2009). Effects of arm frequency during synchronous and asynchronous wheelchair propulsion on efficiency. *International Journal of Sports Medicine*. 30 (4): 233-239.

Mason, B, Woude, van der Woude, L.H.V. and Goosey-Tolfrey, V.L. (2009). The influence of glove type on mobility performance for wheelchair rugby players. *American Journal of Physical Medicine and Rehabilitation*. 88 (7): 559-570.

Price, M.J., Boyd, C., and Goosey-Tolfrey, V.L. (2009). The physiological effects of pre-event and mid-event cooling during intermittent running in the heat in elite female soccer players. *Applied Physiology, Nutrition and Metabolism*. 34 (5): 942-949.

Sutton, L. Wallace, J., Scott, M., Reilly, T and Goosey-Tolfrey, V.L. (2009). Body composition of female wheelchair athletes. *International Journal of Sports Medicine*. 30 (4): 259-265.

Goosey-Tolfrey, V.L. Diaper, N., Crosland, J. and Tolfrey, K. (2008). Fluid intake during wheelchair exercise in the heat: Effects of localized cooling garments. *International Journal of Sports Physiology and Performance*. 3, 145-156.

Goosey-Tolfrey, V.L. Foden, E., Perrott, C., and Degens, H. (2008). Effects of inspiratory muscle training on respiratory function and repetitive sprint performance in wheelchair basketball players *British Journal of Sports Medicine*. (Electronic publication ahead of print)

Goosey-Tolfrey, V.L. Swainson, M.G., Boyd, C., Atkinson, G. and Tolfrey, K. (2008). The effectiveness of hand cooling at reducing exercise-induced hyperthermia and improving distance-race performance in wheelchair and able-bodied athletes. *Journal of Applied Physiology*. 105 (1):37-43.

Goosey-Tolfrey, V.L. and Tolfrey K. (2008). The multistage fitness test as a predictor of endurance fitness in wheelchair athletes, *Journal of Sports Sciences*. 26, 5, 511-517.

Goosey-Tolfrey, V.L. Alfano, H. and Fowler, N. (2008). The influence of crank length and cadence on the mechanical efficiency in hand cycling. *European Journal of Applied Physiology*. 102: 189-194.

Goosey-Tolfrey, V.L., and Sindall, P. (2007). The effects of arm crank strategy on mechanical efficiency and the physiological responses during submaximal exercise. *Journal of Sports Sciences*. 25 (2) 453-460.

Goosey-Tolfrey, V.L. and Lenton (2006). A comparison between intermittent and constant wheelchair propulsion strategies. *Ergonomics*. 49 (11), 1111-20.

Goosey-Tolfrey, V.L., Castle, P. C. and Webborn, N. (2006). Aerobic capacity and peak power output of elite quadriplegic games players. *British Journal of Sports Medicine*, 40 (8), 684-7.

Webborn, N., Price, M.J., Castle, P. C. and Goosey-Tolfrey, V.L. (2005). *Effects of two cooling strategies on thermoregulatory responses of tetraplegic athletes during repeated intermittent exercise in the heat*, in the *Journal of Applied Physiology*. 98, 2101-2107.

Ardigo, L.P., Goosey-Tolfrey, V.L. and Minetti, A.E. (2005). *Biomechanics and energetics of basketball wheelchairs evolution*, in the *International Journal of Sports Medicine*. 26 (5), 388-396.

A fuller publications list can be viewed on the website of the Peter Harrison Centre for Disability Sport: <http://www.peterharrisoncentre.org.uk/research.html>
