

## Prof. Brian James Whipp, 1937–2011: a master in respiratory and exercise physiology

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t is with great sadness that we announce to the European Respiratory Society (ERS) community the passing of Professor Brian James Whipp, after a short illness, in Cardiff, UK, on October 20, 2011 at the age of 74. This event represents an immense loss to those who have had the privilege of knowing Brian, who was a talented scientist and a great man. A masterful researcher, he has been a mentor to many young physiologists and physicians from all over the world. He was also known worldwide as a gifted lecturer and teacher. Indeed, he was one of the most appreciated speakers of the ERS School, and this was formally recognised in 2010 through the Jean-Claude Yernault Lectureship Educational Award.

Born in 1937 in Tredegar, UK, Brian gained a Diploma in Physical Education at the prestigious Loughborough College (Loughborough, UK). He subsequently continued his studies in the USA, first at the University of Florida (Gainesville, FL, USA) and then at Stanford University (Stanford, CA, USA) where, as a Danforth Fellow, he gained his PhD in Physiology in 1967, under the tutelage of Professor Karlman Wasserman. He then set out on what was to become an illustrious career in respiratory and exercise physiology, both as a research investigator and a teacher, at the Harbor-UCLA Medical Centre in Torrance (CA, USA), proceeding through the academic ranks to become Professor of Physiology and Medicine and Vice-Chairman of UCLA's Department of Physiology.

In 1992, he returned to the UK to become Professor and Chairman of the Physiology Department at the University of London's St George's Hospital Medical School, where he remained until he retired as Emeritus Professor in 2001. He stayed as active as ever nonetheless, having affiliations with the Harbor-UCLA Medical Center and the University of Leeds, and finally working from his home in the Welsh village of Crickhowell in the Brecon Beacons (UK), continuing to publish research papers and to present numerous invited lectures worldwide.

Brian's research interests centred on the control of ventilation and on pulmonary gas exchange during exercise in health and disease, with special reference to pulmonary gas exchange kinetics in the non-steady state. Some of Brian's early masterpieces include: "Efficiency of muscular work" [1]; "Rate constant for the kinetics of oxygen uptake during light exercise" [2]; "Oxygen uptake kinetics for various intensities of constant-load work" [3]; "Tenets of the exercise hyperpnea and their degree of corroboration" [4]; "A test to determine parameters of aerobic function during exercise" [5]; "Parameters of ventilatory and gas exchange dynamics during exercise" [6]; "A new method for detecting the anaerobic threshold by gas exchange" [7], which is one of the most cited papers published in the *Journal of Applied Physiology*; "Dynamics of pulmonary gas exchange" [8]; and "Ventilatory control of the 'isocapnic buffering' region in rapidly-incremental exercise" [9]. Brian's work has had a profound impact on respiratory physiology and medicine. He will be remembered as one of the most inspired and talented researchers of his time.

In addition to more than 300 publications on these topics in prestigious journals such as the *Journal of Applied Physiology*, the *Journal of Physiology*, *Respiratory Physiology*, the *American Journal of* 



FIGURE 1. Brian James Whipp, 1937-2011.

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*Respiratory and Critical Care Medicine, Thorax* and the *European Respiratory Journal*, Brian was author or co-author of several books and monographs, including the influential *Principles of Exercise Testing and Interpretation* [10], which is considered "the Bible" of clinical exercise testing.

Over the past 20 years, Brian contributed greatly to both the scientific and educational activities of the ERS. For example, together with Dr Josep Roca, he served as Co-Chair for the 1997 ERS Task Force on Clinical Exercise Testing [11] and co-editor of the *European Respiratory Monograph* "Clinical Exercise Testing" edition [12]. More recently, he authored the chapter on "Control of ventilation" in the *ERS Handbook of Respiratory Medicine* [13]. He was also one of the most sought-after speakers for the ERS Congress Postgraduate Courses on Exercise Testing and the ERS state-of-the-art course on Clinical Exercise Testing.

In recognition of his services, Brian received many academic honours: a Doctorate of Science from Loughborough University (Loughborough, UK) in 1982; a Citation Award from the American College of Sports Medicine in 1990; Chairmanship of the Respiratory Commission of the International Union of Physiological Sciences from 1997–2002; the 2002 Joseph B. Wolffe Memorial Lectureship of the American College of Sports Medicine; the 2007 Distinguished Scientist Honor Lectureship of the American College of Chest Physicians; the 2008 American Physiological Society Honor Award (Environmental and Exercise Physiology); and the 2010 D.B. Dill Lectureship of the American College of Sports Medicine.

Finally, on a more personal note, we each had the privilege of collaborating with Brian in many settings and have had the good fortune to admire a great scientist and a great teacher "in action". His quick wit and particularly Welsh way of doing things have made him a delightful companion and a good friend. He was always ready to help and support young investigators, who are much the poorer for his passing. But most of all, Brian was a very kind and modest man with

wide-ranging cultural interests – art, philosophy and classical music.

He is, and will remain, sorely missed.

## REFERENCES

- 1 Whipp BJ, Wasserman K. Efficiency of muscular work. J Appl Physiol 1969; 26: 644–648.
- 2 Whipp BJ. Rate constant for the kinetics of oxygen uptake during light exercise. *J Appl Physiol* 1971; 30: 261–263.
- 3 Whipp BJ, Wasserman K. Oxygen uptake kinetics for various intensities of constant-load work. J Appl Physiol 1972; 33: 351–356.
- **4** Whipp BJ. Tenets of the exercise hyperpnea and their degree of corroboration. *Chest* 1978; 73S: 274–277.
- **5** Whipp BJ, Davis JA, Torres F, *et al*. A test to determine parameters of aerobic function during exercise. *J Appl Physiol* 1981; 50: 217–221.
- **6** Whipp BJ, Ward SA, Lamarra N, *et al.* Parameters of ventilatory and gas exchange dynamics during exercise. *J Appl Physiol* 1982; 52: 1506–1513.
- **7** Beaver WL, Wasserman K, Whipp BJ. A new method for detecting the anaerobic threshold by gas exchange. *J Appl Physiol* 1986; 60: 2020–2027.
- 8 Whipp BJ. Dynamics of pulmonary gas exchange. *Circulation* 1987; 76: VI18–VI28.
- **9** Whipp BJ, Davis JA, Wasserman K. Ventilatory control of the "isocapnic buffering" region in rapidly-incremental exercise. *Respir Physiol* 1989; 76: 357–368.
- **10** Wasserman K, Hansen JE, Sue DY, *et al.* Principles of Exercise Testing and Interpretation. 4th Edn. Philadelphia, Lea & Febiger, 2005.
- **11** ERS Task Force on Standardization of Clinical Exercise Testing. Clinical exercise testing with reference to lung diseases: indications, standardization and interpretation strategies. *Eur Respir J* 1997; 10: 2662–2689.
- 12 Roca J, Whipp BJ, eds. Clinical Exercise Testing. Eur Respir Mon 1997; 6.
- **13** Whipp BJ. Control of ventilation. *In:* Palange P, Simonds A, eds. ERS Handbook of Respiratory Medicine. Sheffield, European Respiratory Society, 2010.