

**ADVANCES IN MODELING
AND CONTROL OF
VENTILATION**

ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY

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ADVANCES IN MODELING AND CONTROL OF VENTILATION

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PREFACE

The seventh “Oxford Conference” on Modeling and Control of Ventilation was held in the beautiful setting of Northern Ontario at the Grandview Inn in Hunstville. This meeting was called the Canadian Conference on Modeling and Control of Ventilation (CCMCV) to follow on LCMCV held in London, England, three years ago. The beautiful view over Fairy Lake greeted everyone in the morning and provided an ideal setting for many discussions about respiratory physiology and modeling.

The Oxford Conferences began in 1971 when Dr. Richard Hercynski (a mathematical modeler with an interest in respiratory physiology) and Dr. Dan Cunningham (a respiratory physiologist with an interest in modeling) decided to organize a meeting “Modelling of a Biological Control System: The Regulation of Breathing” in Oxford, England, in 1978. The meeting was a success, and it spawned a series of meetings that have continued to today. A second conference was organized at Lake Arrowhead, California, in 1982. After this, conferences were repeated at three-year intervals. My first Oxford Conference was at the abbey in Solignac, France, in 1985. Next, we met in the cabins overlooking Grand Lake, Colorado, in 1988. In 1991, we traveled to the training institute at the base of Mt. Fuji (or at least they tell us Mt. Fuji was out there—we never saw it because of a typhoon rolling through). Our last meeting was at Royal Holloway College (University of London) where we got to dine in a castle among artwork that required guards and an electronic security system.

Sadly, we had to note at this conference the death of Dr. Dan Cunningham. His contributions to the Oxford Conferences and to respiratory physiology were noted in a dinner presentation by Peter Robbins, who was one of Dan’s students.

The Oxford Conferences have attracted scientists who have an interest in developing an integrative view of respiratory control in health and disease. There are no concurrent sessions at the meeting so all scientists can participate fully in the discussions. The meetings have a truly international flavor. A large contingent from Japan, the United Kingdom, and Europe joined the North American scientists. The many graduate students had a great opportunity to interact with the senior investigators and to canoe through Algonquin Park with Professors Honda, Severinghaus, and others.

Graduate students also took part in a competition at this meeting for the best presentation in the general areas of “Control of Breathing” and “Modeling of Breathing.” The winners are shown in the photos on the next page.

No conference can be a success without the help of many individuals and organizations. The primary person who deserves credit for the flawless meeting is Ms. Betty Bax of the Faculty of Applied Health Sciences at the University of Waterloo. My co-organizers



Figure 1. Dr. Richard Hughson looks on as Judith Thornton of Oxford University receives her award in the “Control of Breathing” category from conference co-organizer, Dr. Jim Duffin, for her paper “Cardiorespiratory responses to the imagination of exercise and altered perception of exercise load.”

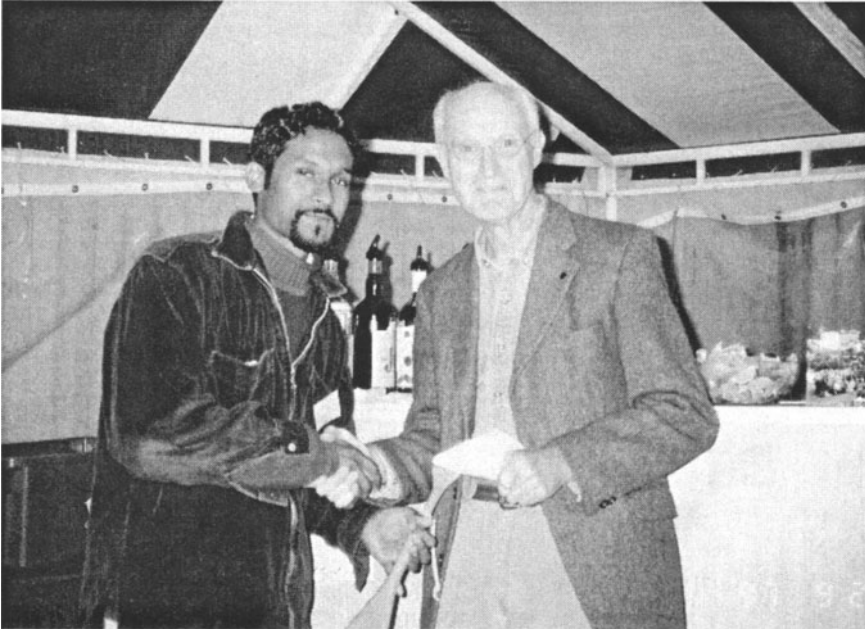


Figure 2. Ravi Mohan of the University of Toronto receives his award in the “Modeling of Breathing” category from conference co-organizer, Dr. David Cunningham, for his paper “Measurement of chemoreflex model parameters.”

and co-editors Jim Duffin and David Cunningham provided great support in all areas. Dr. Martin Holroyde at Glaxo Wellcome Inc. and Dr. Bert Taylor at the University of Western Ontario kindly arranged financial support.

The next meeting will be held in the Boston area in the year 2000. We hope those who have not had the opportunity to experience the stimulating atmosphere of the Oxford Conferences will be able to join us.

Richard L. Hughson
Waterloo, Ontario
January, 1998

Ms. Thornton and Mr. Mohan were judged to have presented the best papers from a total of 19 student papers presented at the recent CCMCV meetings. Each student received a CCMCV canoe paddle and a cheque for \$250. Honorable mentions for excellent presentations were given to Ms. X. Ren of Oxford University and Ms. E. Sarton of Leiden University in the Control of Breathing category, and to Mr. Z. Topor of the University of Calgary and Mr. D. Young of Harvard-MIT in the Modeling of Breathing category. Further details about the conference can be found at the conference web site <http://www.ahs.uwaterloo.ca/cmvcv>. This site will be maintained until the next conference.

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