Invitation from SCSEPF President

FU, H.K. Frank, JP 傅浩堅

President,
The Society of Chinese Scholars on Exercise Physiology and Fitness

Associate Vice-President, Dean and Chair Professor, Faculty of Social Sciences; and Director, Dr. Stephen Hui Research Centre for Physical Recreation and Wellness, Hong Kong Baptist University

On behalf of The Society of Chinese Scholars on Exercise Physiology and Fitness (SCSEPF), it is my great pleasure to invite you to attend the 8th SCSEPF Annual Conference to be held at Hong Kong Baptist University, Hong Kong, China on 12 - 14 August 2009. The main theme of the Conference is "Sports for the Mass and the Olympic Movement".

SCSEPF is a non-profit professional organization committed exclusively to the advancement and improvement of exercise physiology and fitness. The inauguration of SCSEPF was in 2002 and the major goals of the Society include unifying scholars in exercise physiology and fitness in different Chinese societies and worldwide to promote and support the study, practice, teaching, research and development of the exercise physiology and fitness profession, and promoting the growth and application of the quality research of exercise physiology and fitness among Chinese scholars in athletic training, health promotion, sports injury prevention and rehabilitation. At present, SCSEPF members are mainly from Mainland China, Taiwan, Hong Kong, Macau, Australia and the United State of America.

SCSEPF is undergoing development and the annual conference is considered to be a good opportunity for members to explore current developments of exercise physiology and fitness in other parts of the world. It also provides a platform for scholars worldwide to exchange cutting edge research findings and trends. I hereby invite you to participate in the 8th annual SCSEPF conference. With the excellent organization from the

Hong Kong Baptist University, the conference will be another success.

Looking forward to seeing you in Hong Kong in the coming August.

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Organizer and Co-organizers

ORGANIZER

The Society of Chinese Scholars on Exercise Physiology and Fitness

CO-ORGANIZERS

Hong Kong Baptist University, Hong Kong, China

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Theme

SPORTS FOR THE MASS AND THE OLYMPIC MOVEMENT

SUB-THEMES

1. HEALTHY LIVING AND LIFESTYLE
2. DIET AND NUTRITION
3. DOPING IN SPORTS AND PEAK PERFORMANCE
4. SPORTS FOR THE ELITE ATHLETES
5. SPORTS FOR THE ELDERLY
6. SPORTS FOR THE SPECIAL POPULATIONS

DISCIPLINES INVOLVED:

- Human Behavior Areas such as:
  a) Exercise Physiology
  b) Nutrition and Eating Habits
  c) Substances Abuse
- Preventative and Social Medicine
- Public Health and Health Promotion
- Physical Education

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Keynote and Invited Presentations

KEYNOTE PRESENTATIONS

Robert M. Malina, Ph.D., FACSM,

Professor Emeritus, Department of Kinesiology and Health Education, University of Texas at Austin

Research Professor, Tarleton State University

Children and adolescents in the sport culture: the overwhelming majority to the select few

Many children and adolescents participate in organized sport world wide. However, participants decline with increasing age, especially after 11-12 years. Although the decline coincides with the transition from childhood into adolescence, a more important factor is likely increased emphasis on the talented to the neglect of the majority. Given this pattern, two important issues merit concern: (1) how can the sport environment be modified to involve more youth ranging from those simply interested in sport to the elite, and (2) the rush to specialization in sport. The relative merits and efficacy of talent identification programs will be discussed as a major implication of programs for the elite is early specialization, which implies year round participation in a single sport often beginning at relatively young ages. Three major risks

are often associated with early specialization: increased risk of injury - specifically related to overuse, increased risk of burnout, and potential for compromised growth and maturation. Several potential consequences of being labeled as "talented" or "elite" in sport will also be considered.

Roger Eston, Ph.D.

Chair Professor, Head of School
School of Sport and Health Sciences
St Lukes Campus, University of Exeter

Perceived exertion: recent advances and novel applications in children and adults

Perceived exertion may be defined as the subjective sensation of intensity of effort, strain, discomfort or fatigue that is experienced during physical exercise. As indicated recently (Faulkner and Eston, 2008), over 200 studies have utilized the ratings of perceived exertion (RPE) as a marker of the exercise intensity response in a variety of populations in the last 10 years. During this period, novel themes of enquiry involving the use of RPE have emerged. Several of these themes have significant implications for advancing the study and application of the RPE for quantifying, monitoring and regulating exercise intensity in adults and children and for predicting the duration of exercise that remains to volitional exhaustion. Specifically, these recent advances and novel applications of the RPE include further developments in the use of the RPE to predict maximal functional capacity from bouts of sub-maximal exercise (e.g., Davies et al., 2008), by extrapolating the intensity (oxygen uptake/speed/power output): RPE relationship to the maximal or near-maximal RPE of 20 on the Borg 6-20 RPE Scale (Borg, 1998). The development of such methods might obviate the need for measurement of heart rate (HR) and extrapolation of the intensity : HR relationship to an estimated, age-based maximal HR in order to quantify the proportion of the

individual's maximal functional capacity. Perhaps a more interesting use of the intensity: RPE relationship is the application of incremental, perceptually-regulated, sub-maximal bouts of exercise to predict maximal functional capacity. Using this method, it has been shown that when athletic (Eston et al., 2005; Faulkner et al., 2007) and sedentary individuals (Faulkner et al., 2007) are given the autonomy to self-regulate intensity according to a range of prescribed sub-maximal RPE, the maximal oxygen uptake can be predicted with remarkable accuracy. Importantly, it has also been shown that when work rates are incremented by two RPE units in sedentary men and women, the increase in energy expenditure is between 1-2 metabolic equivalents (METs, 3.5 - 7.0 ml.02.kg-1/min-1), which is in accordance with the recommended guidelines (ACSM, 2006). These studies also show that the reliability of perceptually-regulated exercise is improved and becomes quite accurate after a short practice period. The results have implications for exercise intensity control in healthy adults and for encouraging adherence to exercise. However, it is not known if this technique works well in children. It is highly likely that the efficacy of predicting maximal functional capacity from estimation procedures or from perceptually-regulated bouts would indubitably be affected by age, cognitive ability and the duration of exercise bouts. Although preliminary examination of data in this regard are limited, no differences between measured and predicted maximal oxygen uptake was observed when this was extrapolated from the best fit curves of RPE : oxygen uptake values up to RPE 5 and 7 on a curvilinear RPE Scale in children aged 8 years (Eston et al. 2009). Linear extrapolations from the same RPE ranges produced significantly higher values ($p<0.01$). Future research is needed to explore the efficacy of these techniques in children.

A further theme involves the observation that the rate of increase in the RPE during self-paced events of differing distance (e.g., Faulkner et al., 2008) or constant-load tasks in different fatigue conditions (e.g., Eston et al., 2007), where the participant exercises until volitional exhaustion or to a maximal or near-maximal RPE, is proportional to the time remaining on the task. In other words, when the RPE is expressed against the proportion (%) of the time completed, the rate of change in the RPE is similar between events and conditions. These studies have implications for predicting the time remaining to volitional exhaustion and may be useful in clinical as well as athletic performance environments. Studies to explore this phenomenon have yet to be conducted with children.

Finally, this presentation will consider advances in the study of perceived exertion in children. As perceived exertion is moderated by psychological factors, involving cognition, memory and understanding and situational factors, such as knowledge of duration and temporal characteristics of the task (e.g., continuous, intermittent or spasmodic) and knowledge of target distance or total amount of work to be completed, it should be apparent that assessment of how accurately a child can rate perceived exertion (RPE) remains a significant challenge (Eston, 2009). Despite a proliferation of scales to facilitate the measurement of perceived exertion in children, what we really know about children's ability to perceived exertion remains considerably

limited. Future studies to enhance our understanding will be described.

American College of Sports Medicine (2006). ACSM's Guidelines forExercise Testing and Prescription, 7th ed. Lippincott, Williams & Wilkins, Philadelphia.

Borg G (1998). Borg's Perceived Exertion and Pain Scales. Human Kinetics, Leeds.

Davies, R. C., Rowlands, A.V. and Eston, R.G. (2008) The prediction of maximal oxygen uptake from sub-maximal ratings of perceived exertion elicited during the multistage fitness test. British Journal of Sports Medicine. 42, 1006-1010

Eston, R.G. (2009) What do we really know about children's ability to perceive exertion? Time to consider the bigger picture. Pediatric Exercise Science, In Press

Eston, R.G., Lamb, K.L., Parfitt, C.G. and King, N. (2005) The validity of predicting maximal oxygen uptake from a perceptually regulated graded exercise test. European Journal of Applied Physiology, 94, 221-227

Eston R, Faulkner J, St Clair Gibson A, Noakes T and Parfitt G (2007) The effect of antecedent fatiguing activity on the relationship between perceived exertion and physiological activity during a constant load exercise task. Psychophysiology, 44, 779-786

Faulkner, J.A. and Eston, R.G. (2008) Perceived exertion research in the 21st century: developments, reflections and questions for the future. Journal of Exercise Science and Fitness, 6 (1), 26-32

Faulkner JA, Parfitt G. and Eston, R.G. (2007) Prediction of maximal oxygen uptake from the ratings of perceived exertion and heart rate during a perceptually-regulated sub- maximal exercise test in active and sedentary participants. European Journal of Applied Physiology. 101, 397-407

Eston, R.G., D. Lambrick and A.V. Rowlands. The perceptual response to exercise of progressively increasing intensity in children aged 7-8 years: validation of a pictorial curvilinear ratings of perceived exertion scale. Psychophysiology, In Press

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INVITED PRESENTATIONS

Julien S Baker,
Ph.D., FRSM

Professor, Head of Division Sport and Exercise Science Division School of Science

University
of the West
of Scotland

Physiological, mechanical and biochemical issues in the measurement of human leg power using high intensity cycle ergometry

Tests of high intensity power and capacity have been extensively used by exercise physiologists to help characterise athletic groups. However, there is little agreement as to one suitable test which can be considered as a valid indicator of both power and capacity as different test protocols measure different components of high intensity performance.Measurements of these different characteristics can be achieved by computing either the amount of mechanical work that can be performed in a specified time, or by monitoring the time taken to perform a given amount of high intensity work.

The evaluation of high intensity power and capacity may also depend on the interpretation of experimental data. High intensity performance has been assessed predominantly by cycling on stationary friction loaded cycle ergometers.

Cumming, (1974) introduced a friction braked cycle ergometer test which was further developed at the Wingate institute in Israel and became known as the Wingate Anaerobic test (WANT). The prototype was announced by Aylon et al. (1974) and since its conception a comprehensive description has been published (Bar - Or, 1981). In test protocols using cycle ergometry where a single exercise bout is performed, it is important to set a resistive force that matches the capability of the muscle. In this way, true maximal power output can be measured at, or close to, optimal velocity. A number of authors have addressed the possibility of predicting the optimal resistive force from body mass. This issue however has not been fully resolved (Bar-Or, 1987).

Because the discipline encompasses both clinical and practical applications, its study has illuminated our understanding of such critical fields such as metabolic considerations associated with high intensity activity, the mechanics of the equipment and its validation, muscle damage parameters, oxidative stress, hormonal characteristics, rehabilitation from injury, enzyme activity and general muscle physiology. The purpose of this presentation is to highlight, and explore possible biochemical, mechanical and anthropometric influences that may affect our interpretation of high intensity exercise data collected using

cycle ergometers.

Andrew P. Hills,
Ph.D.

School of Human Movement Studies, Institute of Health and Biomedical Innovation, ATN Centre for Metabolic Fitness, Queensland University of Technology, Brisbane

It's time to be more serious about activating youngsters - lessons for childhood obesity

The epidemic of obesity in the region is impacting on an increasing proportion of children, adolescents and adults with a common feature being low levels of physical activity. Despite having more knowledge than ever before about the benefits of physical activity for health and the growth and development of youngsters, we are paying 'lip-service' to the development of motor skills in children. Fun, enjoyment and basic skills are the essential underpinnings of meaningful participation in physical activity. A concurrent problem is that for a significant proportion of the population, there has been a steady increase in sitting time with the most common sedentary behaviours being television viewing and participation in other screen-based games. Limitations of time have contributed to a displacement of more active behaviours with these and other inactive pursuits which collectively has contributed to reductions in activity energy expenditure. In order to redress the energy imbalance in overweight and obese children, we urgently need 'out-of-the-box' multi-sectoral solutions. There is little to be gained from a shame and

blame mentality where individuals, their parents, teachers and other groups are singled out as targets. Such an approach does little more than shift attention from the main game which requires a concerted, whole-of-government approach (in each country) to have any chance of success. If we fail to support and encourage all young people to participate in regular physical activity, there is every chance that our children will not only live less healthy but possibly, shorter lives than their parents. In short, we need 'novel' environmental approaches to foster a systematic increase in physical activity in the wider community. This paper will provide examples of opportunities for innovative physical activity strategies in a number of settings, including schools.

Helen Jones, Ph.D.

Post Doctoral Research Fellow
Research Institute for Sport and Exercise Sciences
Liverpool John Moores University

Exercise and the circadian variation in cardiovascular function

The risk of sudden cardiac events can be 3-times higher in the morning compared with other times of day, possibly due to an increased likelihood of rupture of a fragile atherosclerotic plaque (Atkinson et al. (2006) Sports Medicine 36: 487-500). Possible triggers for plaque rupture, which also show circadian variation, include arterial blood pressure (BP), physical activity, sympathetic nerve activity, vascular resistance or vascular function (Atkinson et al. (2006) Sports Medicine 36: 487-500, Jones et al. (2009) Med Sci Sports Exerc, In press). In a series of studies, we have described the exercise mediated cardiovascular alterations that occur in the morning compared with other times of day. We have reported

that the response of ambulatory BP to everyday physical activities (i.e. the change in BP per unit change in physical activity) is greatest in the morning (Jones et al. (2006) Hypertension 47: 778-784). We have also shown that the BP lowering effects of a continuous bout of exercise are reduced or absent in the morning (Jones et al. (2008) Eur J Appl Physiol 104: 481-489) and are not due to prior sleep-related influences (Jones et al. (2008) Chronobiol Int 25: 987-998). Nevertheless, intermittent exercise appears to be different to continuous exercise in terms of this diurnal variation in post-exercise hypotension (Jones et al. (2009) Chronobiol Int 26: 293-306). Subsequent to these studies on BP, we have reported that the diurnal variation in post-exercise BP is associated with changes in the vasculature at different times of day (Jones et al. (2008) Eur J Appl Physiol 104: 481-489, Jones et al. (2008) Chronobiol Int 25: 987-998, Jones et al. (2009) Med Sci Sports Exerc, In press). Specifically, we have found that there is greater luminal shear rate without associated changes in arterial diameter following exercise in the morning compared with the afternoon (Jones et al. (2009) Med Sci Sports Exerc, In press). The exercise-mediated cardiovascular changes from this series of studies have implications for individuals at risk of sudden cardiac events if they undertake vigorous physical exertion in the morning, given the greater risk of cardiac events at this time of day (Atkinson et al. (2006) Sports Medicine 36: 487-500).

Alison McConnell, Ph.D., FACSM

Professor of Applied Physiology
Centre for Sports Medicine & Human Performance
Brunel University

Respiratory muscle training as an ergogenic aid

Most sport scientists still do not consider breathing to be a limiting factor for exercise performance. However, the past decade has seen evidence emerge showing unequivocally that breathing not only limits

exercise performance, but that removal of this limitation improves performance. This review will describe the mechanisms by which respiratory muscle work limits exercise performance, as well as the evidence that specific training of the respiratory pump muscles improves performance in the context of both endurance and repeated sprint sports. Finally, the mechanisms underlying this ergogenic effect will be considered, as well as their implications for the practical application of respiratory muscle training.

Gaynor Parfitt, Ph.D.

Associate Professor
School of Sport and Health Sciences
St Lukes Campus,
University of Exeter

The exercise intensity-affect relationship: theoretical and experimental evidence to enhance exercise behaviour

The development of the dual-mode theory (Ekkekakis, 2003; *Cognition and Emotion*, *17*:213-239) has brought greater conceptual and theoretical clarity to understanding the complex and multifaceted exercise intensity-affect relationship. The theory proposes that affective responses to exercise are governed by complex mechanisms dependent on the metabolic demands of the exercise intensity. The methods and mechanisms central to the theory will be highlighted and practical application discussed. Evidence to demonstrate the shift in affective responses from pleasure to displeasure as the intensity of exercise increases and causes disruption to the physiological homeostasis of the body will be considered. This data will comprise reference to active and sedentary participants and include research that has been conducted with adults and children. The potential impact of self-selected exercise intensity (Parfitt et al., 2006; *British Journal of Health Psychology*, 11: 39-53) and self-regulation using an affective scale (Rose and Parfitt, 2008; Medicine & Science in Sports & Exercise, :1852-1860) which involve key processes underpinning the dual-mode theory and which have implications

for adherence will be presented. In addition, given recent evidence that affective responses during exercise may be a determinant of future exercise behaviour (Williams et al., 2008; *Psychology of Sport and Exercise*, 9: 231-245), the practical role of the peak-end rule will be discussed and relevant studies presented. These studies explore the application of the peak-end rule to exercise behaviour and examine the influence of 'peak' affective memory on future exercise intentions.

Lynda Ransdell, Ph.D., FACSM & CSCS

Professor
Department of Kinesiology
Boise State University

How does athletic performance change with age? An analysis of world record performances in master's athletes who run, swim, and cycle

Masters athletes are older adults who participate in sports and athletic events beyond what is believed to be their "prime" competitive years. They continue to participate in physical activity because they value a healthy lifestyle, and they enjoy the camaraderie and competition that sport participation brings. Generally, these athletes are between 35 and 80 years of age, but the age at which they are considered a "master" varies according to the physiological demands of the sport. For example, in archery, masters competition begins at the age of 50 y, whereas in swimming, masters competition begins at age 25 y. Because individuals realize the physical, social, and emotional benefits of lifetime physical activity, participation in masters athletic events has grown significantly. For example when the World Masters Games were started in 1985 in Toronto, Canada, competition was held for 22 sports and 8305 athletes from 61 countries attended. In 2005, twenty years later in Edmonton, Canada, competition was held for 25 sports and 21,600 athletes from 89 countries attended. The 2009 games in Sydney, Australia promise to be the largest World Masters Games to date. Given the tremendous

growth in sport participation by masters athletes, the interest in maintaining healthy participation throughout the aging process, and the need to examine capabilities of athletes as they age, the purpose of this paper is to: (a) describe world record performances of masters athletes in running, swimming, and cycling, (b) delineate typical world record performances across age categories of masters athletes, (c) explain how physiological, sociological, and psychological changes might affect these age-group differences in performance, (d) discuss gender differences in world record performances, and (e) provide tips for the continued healthy participation of masters athletes.

Steve Selig,
Ph.D., AEP

Professor
School of Sport and Exercise Science
Victoria University, Melbourne

A new accreditation system for clinical exercise physiologists in Australia

In 2006, a major breakthrough occurred in Australia when the Federal Department of Health and Ageing approved the Accredited Exercise Physiologist (AEP) to deliver clinical exercise services for people with chronic medical conditions, disabilities or injuries under the universal taxpayer-funded national health scheme, Medicare Australia. Since this breakthrough that is unparalleled anywhere in the world, AEPs have been approved to provide clinical exercise services under other schemes on behalf of people injured at work or in motor vehicle accidents, returned service personnel, commonwealth employees, and people insured under many private health schemes. Accreditation of the AEP is administered by the Australian Association for Exercise and Sports Science (AAESS).

The entry of the AEP into Medicare provided the stimulus for the development by the authors of a new set of accreditation criteria and system that were implemented nationally on 1 January 2008. We proposed

not to rely on schemes developed by other organisations such as the American College of Sports Medicine, but rather to design a new purpose-built scheme for the Australian context that would best address the scope of practice of the AEP in this country. The criteria comprise sets of pathology-specific knowledge and experiences to enable the AEP to practise across cardiopulmonary, metabolic, musculoskeletal, neurological and neoplastic pathologies, together with a set of generic standards including communication, ethics and risk management. In this paper, case examples will be given to illustrate how the AEP provides clinical exercise services.

We proposed a two phase model that commences with a parallel system of individual and institutional accreditation. The second phase, to be implemented by 2014, will only permit graduates from accredited university programs to be eligible to practise as an AEP, with the exception of suitable candidates who have trained overseas. The model has stimulated an increased level of activity in the Australian university sector in revising or developing new programs in clinical exercise science and practice, and should lead to improved standards of safe and effective clinical exercise practice, and produce useful and sustainable benefits for clients, practitioners and the taxpayers of Australia.

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Conference Information

LANGUAGE

The official conference language is English

CALL FOR PAPERS

The Organising Committee invites applications for oral and poster presentations for the conference. Papers dealing with other themes will also be considered.

Abstract Form Download

REGISTRATION

Registration fee:

SCSEPF Members: HK$800 (US$105)
SCSEPF Associate Members: HK$600 (US$80)
Local (Hong Kong, Mainland, Taiwan, Macau) Participants: HK$1,050 (US$135)
Overseas Participants: HK$1,560 (US$200)
* Day-pass for Local Full-time Student: HK$120/day
# Accompanying Person: HK$780 (US$100)

Registration fee includes:
• 2010 SCSEPF membership fee
• Admission to the scientific sessions
• Conference materials (program, abstract book, conference bag, badge etc.)
• Opening ceremony
• Coffee breaks, lunches
• Conference banquet
• Certificate of attendance

* Local Full-time Student will be requested to show the valid student card when register. The day-pass holder will be eligible to attend the scientific sessions in the subscribed date.

Registration fee for Accompanying Person includes:
• Conference banquet
• Half-day downtown tour
• Meal Coupons

Registration Form Download Area:

Registration Form for overseas participants
Registration Form for local participants from the Mainland China
Registration Form for local participants from Hong Kong, Macau, Taiwan

POST-CONFERENCE ACTIVITY

Half-day downtown tour in Hong Kong will be arranged post-conference free of charge. Details will be provided during on-site registration.

ACCOMMODATION

Dr. Ng Tor Tai International House

IMPORTANT DATES

Deadline for abstract submission: April 30, 2009
Notification of authors: May 31, 2009
Deadline for Registration: July 31, 2009

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