17th annual Congress of the

EUROPEAN COLLEGE OF SPORT SCIENCE

4-7th July ECSS Bruges 2012 – Belgium

BOOK OF ABSTRACTS

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Meeusen, R., Duchateau, J., Roelands, B., Klass, M., De Geus, B., Baudry, S., Tsolakidis, E.

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Welcome

On behalf of the European College of Sport Science (ECSS) and the Free Universities of Brussels, we welcome you to Bruges for the 17th annual congress of the ECSS.

The two universities hosting ECSS 2012, Université Libre de Bruxelles and Vrije Universiteit Brussel, have for many years contributed to the development of sport science in Europe. This sustained commitment to sport-related research from Brussels, the site of the European Institutions, led us to choose **"Sport Science in the Heart of Europe"** as the theme of the 17th congress of the ECSS.

The Bruges congress comprises an outstanding scientific programme that emphasizes contemporary knowledge in sport science. The congress will feature 4 plenary sessions and 36 invited symposia on topical issues in the field, the vitaly of which is underscored by the submission of close to 2000 abstracts from approximately 60 countries. After a thorough review and the withdrawal of some abstracts, ~85% of the submitted abstracts have been selected for the final programme. These free communications are distributed among 74 thematic oral and 115 e-poster sessions. A new feature this year is that all posters (1132 abstracts) will be presented in electronic format, which we anticipate will increase interactions among meeting participants.

Bruges was chosen as the host city for the congress due to its beauty and its historical role in the development of Europe. In these ancient times, Bruges was one of the European cities in which intellectual, artistic, and trading activities converged and then expanded into Europe and well beyond. This history captures the objective of the College to establish a strong foundation for sport science in Europe and into the world.

By combining the cultural heritage and beauty of Bruges with a high-quality scientific programme, we anticipate that the 17th annual congress of the ECSS will be an exceptional professional experience. On behalf of the ECSS and the local organisers, we wish you a productive and enjoyable stay in **Bruges.**

Prof. R. Meeusen (VUB) Prof. J. Duchateau (ULB)

Table of Contents

THE CREATION AND TRANSFORMATION OF ASIAN MARTIAL ARTS IMAGINARY IN THE WEST

Gutiérrez-García, C.

University of León

This presentation aims at analyzing the historical evolution of Asian Martial Arts (AMA) in the West from the perspective of their imaginary. Imaginary – or social imaginary – is considerer here as cognitive schemas widely shared by ordinary people which legitimate and make possible common practices (Taylor, 2004). Although some Asian martial traditions were known many centuries ago in Western countries, modern AMA imaginary started to be created since the mid 19th century after the opening of Japan to the outside world. Japan became an internationally recognized military power in a few decades after defeating China (1894-95) and Russia (1904-95), thus rising the interest in the West about Japanese martial culture. Japanese MA – particularly jujutsu/judo – soon built a strong imaginary as ancient, bushido inspired, complex self-defense systems "that would allow a weak person to be capable of defeating a stronger opponent with minimal effort" (Gutiérrez et al., 2010: 26). Also, they were perceived as sports and physical and moral education means. This first, powerful imaginary, has irregularly evolved until present day. Foreign policies between Japan and Western countries, Japanese emigration, the inclusion of MA in military training, MA sportification processes or MA films have defined different historical and regional rhythms. Also, it is noteworthy that new MA imported in the West such us Karate or Taekwondo embraced this imaginary although trying to enhance their peculiarities (Green & Svinth, 2010). Since the middle of the 20th century, countercultural movements added a new set of images to AMA. Examples include New Age, Human Potential Movement or Holistic Health Movement (Campbell, 2007). AMA were seen as means for achieving holistic health and harmony with the self, nature and the universe. Many of these ideas came in fact from Asian religious-philosophical systems, but were soon westernized. While many AMA have usually incorporated countercultural imaginary to some degree, such as Zen meditation, some Chinese MA have adhered quite closely to this imaginary so that they are considered as countercultural typical practices. That is the case of the so-called "inner martial arts" such as Taijiquan (a.k.a. Tai Chi). Nowadays the social imaginary of AMA in the West is mainly refreshed by their practice as sports/health activities and by mass media, particularly films and TV series. This imaginary makes possible that AMA are so widely spread as social practice among population of different regions, ages and sex. REFERENCES Campbell C. 2007. The Easternization of the West… Boulder,CO: Paradigm Publishers. Green, T.A. & Svinth, J.R. [eds.]. 2010. Martial Arts of the World... Santa Barbara, CA: ABC-CLIO. Gutiérrez C, Pérez M, Acevedo W, Cheung M (2010). IDO Ruch dla Kultuty-Movement for Culture, X, 24-30. Taylor C (2004). Modern Social Imaginaries. Durham: Duke University Press.

SPORT PSYCHOLOGY DELIVERY SERVICES TO OLYMPIC TAEKWONDO

Sanchez, X.

University of Groningen

Taekwondo, an Olympic combat sport since Sydney 2000, is a discipline in which opponents are directly, deliberately and systematically confronted against each other in a dynamic environment (Pieter & Heijmans, 1997). Based on previous experience, the present communication illustrates how Taekwondo questions had been answered through sport psychology and how these answers had been applied in the sporting arena. We focus on the work we developed around the tactical component of competitive Taekwondo. We adopt Bishop's (2008) three-phase, eight-stage applied research model for the sport sciences (ARMSS) as a framework that is of particular interest when identifying performance predictors in such new disciplines. Sanchez and Wautier (2003) developed the Taekwondo Combat Assessment System (TCAS), a tool to study Taekwondo combatants' interactions during combats. By video-analysing the combats with TCAS, combatants' technical-tactical changes are detected and specific patterns of fighting are identified. First, by profiling the performance of the athletes, their temporal evolution in a competition is monitored (round by round, combat by combat) as well as their combat-learning development (throughout competitions). Second, by profiling the performance of the adversaries, the self-confidence of the athletes increases (self-reports), and the causal attributions of their performances become adaptive and modifiable (i.e. rather internal and controllable). In addition, by considering these causal attributions players and coaches provide to explain performance during a competition, the sport psychologist is able to assess the factors that are believed influence performance (Sanchez et al., 2003). Finally, athletes' emotional states are individually assessed to (1) build up 'optimal profiles' from which athletes have, in theory, the greatest chances to perform at their best, and (2) train those athletes how best manage these optimal levels. The presentation is supported with specific case-examples for both in-between-rounds, such as active recovering (rehydrating, attentional focus, effective communication) and in-between-combats, such as active recovering (skipping), competition modes (pre-, post-, no-fight), and optimal emotional-arousal regulation (use of music). REFERENCES. Bishop, D. (2008). An applied research model for the sport sciences. Sports Medicine, 38, 253-263. Pieter, W., & Heijmans, J. (1997). Scientific Coaching for Olympic Taekwondo. Meyer & Meyer Verlag: Aachen. Sanchez, X., et al. (2003). How do players and coaches account for their success and failure when competing in Taekwondo Olympic sparring matches? In: 2nd World Congress of Physical Activities and Sport Sciences (pp. 235-238). Granada, Spain. Sanchez, X., & Wautier, P. (2003). The Taekwondo Combat Assessment System-TCAS: A notational analysis tool. In: Proceedings of the XI FEPSAC European Congress of Sport and Exercise Psychology (p150). Copenhagen, Denmark.

09:50 - 11:20

Invited symposia

IS-BN03 Neuroplasticity: From Basic Sciences to Sport Performance

BRAIN-DERIVED NEUROTROPHIC FACTOR AND EXERCISE, AN UPDATE

Knaepen, K., Goekint, M., Meeusen, R.

Vrije Universiteit Brussel

Introduction: Neurotrophins are important regulators of neuronal survival, development, function, and plasticity. They are capable of signaling neurons to survive, differentiate or grow. Neurotrophic factors are also important in processes of central and peripheral energy metabolism. Their effect on synaptic plasticity in the central nervous system involves elements of cellular energy metabolism and in the periphery they take part in metabolic processes. Physical activity, and in particular, acute exercise and training play a key role in process-