

REPORT OF THE 3rd INTERNATIONAL SCIENTIFIC CONFERENCE “KINESIOLOGY – NEW PERSPECTIVES”

Opatija, Croatia, September 25-29, 2002

The third international conference on kinesiology, under the title “Kinesiology – New Perspectives”, was organised and hosted by the Faculty of Kinesiology, University of Zagreb, Croatia, from 25 to 29 September, 2002, in the Hotel Adriatic Convention Centre in Opatija, under the high patronage of the Croatian Academy of Sciences and Arts. The co-organisers were: the Ministry of Science and Technology of the Republic of Croatia, the Ministry of Education and Sport of the Republic of Croatia, the Croatian Olympic Committee and the Zagreb Sports Association. The International Association of Sport Kinetics (IASK) and the Croatian Association of Theoretical and Experimental Kinesiology gave their support.

More than 340 delegates and contributors – scholars, researchers, novices and postgraduate students, as well as practitioners of kinesiology, like PE educators, sport trainers and coaches, sport physicians, sport psychologists, sports recreation and kinesiotherapy organizers and leaders from 32 countries, participated in the three-day or 28-hour conference work. In five plenary and eight thematic parallel sessions and three poster displays 221 conference contributions, both invited and accepted, were presented.

Five years ago, at the beginning of the 1st Conference on kinesiology, held in Dubrovnik, the president of the Organising Committee Prof. Dragan Milanović welcomed 110 participants from nine countries, who presented 72 contributions. For the second time, in 1999, the Conference took place also in Dubrovnik with the participation of 268 delegates from 17 countries. Fifteen invited plenary lectures were given and 100 contributions were presented either orally or on a poster display. The Conference has obviously grown from its origins back in 1997 to a respectable meeting of researchers and professionals from Croatia and abroad whose areas of scientific interest pertain to various fields of kinesiology (sport & exercise sciences) and the adjacent scientific fields.

Members of the Organising Committee: Chair: Dragan Milanović, Vice-chair: Stjepan Heimer, Secretary General: Krešimir Kristić, Secretary: Renata Barić, Mato Bartoluci, Emil Hofman,



Figure 1. Opening speech of the President of the Organising Committee Prof. Dragan Milanović, Croatia.

Branka Matković, Marjeta Mišigoj-Duraković, Dinko Vuleta, Romana Caput-Jogunica and Željka Jaklinović-Fressl, as well as the Faculty of Kinesiology as a whole, put a great effort into the life of the Conference. Most things regarding the organisation and technical support went well.

The process of reviewing the contributions and setting a programme was a demanding task. Due to the fact that each reviewer provided feedback on a number of papers in a very short time, most credits for the success of the Conference go to the members of the Scientific Committee: Franjo Prot, Faculty of Kinesiology, University of Zagreb (FK, UZ), Croatia, Chair, Mirna Andrijašević, FK, UZ, Croatia, Arnold Baca, Department of Biomechanics, Kinesiology and Applied Computer Science, ISW, University of Vienna, Austria, Mato Bartoluci, FK, UZ, Croatia, Katarina T. Borer, Department of Movement Science, Division of Kinesiology, University of Michigan, MI, USA, Ksenija Bosnar, FK, UZ, Croatia, Vladimir Findak, FK, UZ, Croatia, Kenneth Hardman, School of Education, Centre for PE & Leisure Studies, University of Manchester, England, UK, Mike Hughes, Centre for Performance Analysis, University of Wales, Cardiff, UK, Bojan Jošt, Faculty of Sport, University of Ljubljana, Slovenia, Toivo Jürimäe, Department of Sport Pedagogy, Faculty of Exercise and Sport Sciences, University of Tartu, Estonia, Branka Matković, FK, UZ,

Croatia, Vladimir Medved, FK, UZ, Croatia, Dragan Milanović, FK, UZ, Croatia, Marjeta Mišigoj-Duraković, FK, UZ, Croatia, Erich Müller, Institute for Sport Science, University of Salzburg, Austria, Roland Renson, Department of Sport – Sociocultural Kinesiology; Catholic University Leuven, Belgium, Włodzimierz Starosta, President of IASK, Institute of Sport, Warsaw, Poland, Kenneth Swalgin, Professor of Kinesiology, PennState, York Campus, PA, USA, Matej Tušak, Faculty of Sports, University of Ljubljana, Slovenia, Nataša Viskić-Štalec, FK, UZ, Croatia, and Ilkka Vuori, Director UKK Institute for Health Promotion Research, University of Tampere, Finland, who all served willingly also as the reviewers, and to the rest of the quite comprehensive team of international reviewers: Franci Ambrožič, Faculty of Sport, University of Ljubljana, Slovenia, Herman Berčič, Faculty of Sport, University of Ljubljana, Slovenia, Jan Borms, Faculty of PE and Physical Therapy, Human Biometry and Biomechanics – Health Promotion, Vrije Universiteit, Brussel, Belgium, Vesna Buško, Department of Psychology, Faculty of Arts, University of Zagreb (UZ), Croatia, Romana Caput-Jogunica, Faculty of Agriculture, UZ, Croatia, Mario Cifrek, Faculty of Electrical Engineering and Computing, UZ, Croatia, Nevenka Čavlek, Faculty of Economics, UZ, Croatia, Milan Čoh, Faculty of Sport, University of Ljubljana, Slovenia, Bojana Dalbelo Bašić, Faculty of Electrical Engineering and Computing, UZ, Croatia, Daniela Dasheva, National Sports Academy, Sofia, Bulgaria, Nataša Erjavec, Faculty of Economics, UZ, Croatia, Till Hase, DSSV, Berlin, Germany, Stjepan Heimer, FK, UZ, Croatia, Ivica Hmjelovec, Faculty of Physical Culture, University of Sarajevo, Bosnia and Herzegovina, Damir Horga, Faculty of Arts, UZ, Croatia, Smiljka Horga, FK, UZ, Croatia, Željko Hraski, FK, UZ, Croatia, Mirjana Ivančić-Košuta, FK, UZ, Croatia, Saša Janković, FK, UZ, Croatia, Stjepan Jerković, FK, UZ, Croatia, Veljko Jovanović, Department of Anthropology, Faculty of Arts, UZ, Croatia, Igor Jukić, FK, UZ, Croatia, Toivo Jürimäe, Institute of Sport Pedagogy, University of Tartu, Estonia, Mirko Koršić, Faculty of Medicine, UZ, Internal Medical Clinic

«Rebro» Zagreb, Croatia, Ivica Kostović, Faculty of Medicine, UZ, Croatia, Alija Kulenović, Department of Psychology, Faculty of Arts, UZ, Croatia, Jela Labudova, Faculty of PE and Sport, Comenius University, Bratislava, Slovakia, Bojan Matković, FK, UZ, Croatia, Milko Mejovšek, Faculty of Special Education and Rehabilitation, UZ, Croatia, Mladen Mejovšek, FK, UZ, Croatia, Radovan Medved, FK, UZ, Croatia, Jelena Mihaljević-Djigunović, Faculty of Arts, UZ, Croatia, Tomislav Pribanić, Faculty of Electrical Engineering and Computing, UZ, Croatia, Ivan Prskalo, High School for Teacher Education, Petrinja, Croatia, Damir Sekulić, Faculty of Natural Sciences, Mathematics and Education, University of Split, Croatia, Janko Strel, Faculty of Sport, University of Ljubljana, Slovenia, Lajos Szivoczka, Institute for Anthropological Research, UZ, Zagreb, Croatia, Dijana Šimić, Institute for Medical Research, Zagreb, Croatia, Rajko Šugman, Faculty of Sport, University of Ljubljana, Slovenia, Jozsef Tihanyi, Semmelweis University, Budapest, Hungary, Stanko Tonković, Faculty of Electrical Engineering and Computing, UZ, Croatia, Maks Tušak, Faculty of Arts, University of Ljubljana, Slovenia, Predrag Zarevski, Department of Psychology, Faculty of Arts, UZ, Croatia, Niko Zurak, Faculty of Medicine, UZ, Croatia.

The opening ceremony was held on September 25, 2002, with the opening speeches of Prof. Mato Bartoluci, Dean of the Faculty of Kinesiology, Prof. Dragan Milanović, president of the Organising Committee, and Prof. Franjo Prot, president of the Scientific Programme Committee. Then followed welcome speeches from academician Ivo Padovan, president of the Croatian Academy of Sciences and Arts, Stjepan Puhak, Assistant Minister for Education and Sport, Darko Dujmović, the Olympic Programme Manager in the Croatian Olympic Committee, Bojan Jošt, Dean of the Faculty of Sport University of Ljubljana, Slovenia. The folklore chorus “Opatija” with three folk songs made an excellent introduction for a 15-minute documentary about Croatia. The poetic presentation of the national cultural and natural wealth was enthusiastically received by the audience and greeted with a standing ovation.



Figure 2. From the opening ceremony: from the left - the first row: Krešimir Kristić, Franjo Prot, Romana Caput-Jogunica, Dragan Milanović, Mato Bartoluci, Fellow of the Croatian Academy of Sciences and Arts Vladimir Stipetić, President of the Croatian Academy of Sciences and Arts Ivo Padovan; the second row: Mirna Andrijašević, Ksenija Bosnar, Nataša Viski-Štalec, Ilkka Vuori, Marjeta Mišigoj-Duraković, Dinko Vuleta, Hrvoje Sertić, Włodzimierz Starosta; the third row: Arnold Baca, Katarina T. Borer, Jan Borms, Kenneth Hardman.

Plenary sessions

The ten invited keynote lectures were presented in five plenary sessions by prominent international scholars:

PLENARY SESSION	INVITED SPEAKERS	TITLE OF THE LECTURE
September 26, morning CHAIRPERSONS Kenneth Hardman, Erich Müller, Dragan Milanović	Erich Müller	<i>Challenges in optimising human sport performance</i>
	Kenneth Hardman	<i>School PE and sport in Europe: rhetoric and reality – current and future perspectives</i>
September 26, afternoon CHAIRPERSONS Ilkka Vuori, Mike Hughes, Stjepan Heimer	Ilkka Vuori	<i>The need and value of collaboration of multiple partners in national and international promotion of Sport for All</i>
	Mike Hughes	<i>From analysis to coaching</i>
September 27 CHAIRPERSONS Jan Borms, Atko Viru, Vladimir Stipetić, Marjeta Mišigoj-Duraković, Branka Matković	Atko Viru	<i>Adaptation in sport</i>
	Jan Borms	<i>Secular changes in sport</i>
September 28, morning CHAIRPERSONS Matej Tušak, Joszef Tihanyi, Vladimir Medved	Matej Tušak	<i>Contemporary topics in sport psychology</i>
	Joszef Tihanyi	<i>Biomechanical properties of tendons</i>
September 28, afternoon CHAIRPERSONS Włodzimierz Starosta, Roland Renson, Franjo Prot	Włodzimierz Starosta	<i>Science dealing with human movements – the meaning, the term, the course of development</i>
	Roland Renson	<i>Kinesiologists: raiders of the lost paradigm?</i>

The invited speakers highlighted authoritatively the state-of-the-art and probable courses of development in the particular fields of their interests. The lectures were well received by packed audiences and enjoyed by all, irrespective of individual scientific interest. They undoubtedly accomplished their aims of stimulating debate and furthering knowledge.

Thematic sessions

There were eight thematic sections, held in two parallel sessions at a time. The section leaders made the following reports of the work in their particular sessions:

Physical education

Chaired by

Romana Caput-Jogunica, Kenneth Hardman
and **Ivan Prskalo**

The Physical Education section invited Professor Kenneth Hardman to give the plenary session lecture *School physical education and sport in Europe – rhetoric and reality: current and future perspectives*, and Professor Janko Strel to open the thematic session on physical education, on Thursday, September 26, 2002. The title of his introductory lecture was *Selectivity and individualisation within the curricula – a basis of further development of school sport*.

Thirty papers were received for the presentation at the Conference, and twenty-eight were accepted after being reviewed. The authors of the contributions were from The Czech Republic, Slovakia, Slovenia and Croatia. The papers were classified into four categories according to the chronological age of the testees: pre-school children, primary school children, secondary school youngsters and university students.

The investigations on the pre-school testees analysed the anthropological status of the youngest population. On the samples of children and students, aged 7-20 years, most papers analysed the attitudes towards, interests and motives of schoolchildren and university students for their participation in physical education lessons and/or specific sports activities. A few papers dealt with certain issues of addiction problems.

The main topic of the Conference was new perspectives in kinesiology. As the hosts of this Conference we would like to consider and establish a unique name of the school subject, in English known as physical education, and a unique basic terminology of kinesiology till our next meeting.

The suggested directions in the physical education teaching in Croatia refer to the necessary

changes of the present curriculum, which is somewhat obsolete and inappropriate for a modern way of life and its needs. Therefore it frequently causes frustrations instead of the pleasure of movement in many students. This could be changed, avoided by a new approach to students, whereby a student would not be a part of a homogeneous group but an individual for whom a new curriculum would be created according to his/her anthropometric characteristics and defined interests.

However, the suggested model of this school subject could be realised only if a number of pre-conditions are satisfied. For such a big step forward it is necessary to engage all the people who take part in the pedagogical and educational system of the country. After the conditions necessary for an individual approach in PE teaching are met, the next logical step would be to include the students with special needs in the regular physical education classes.

The introduction of an individual approach to students in the framework of physical education (the major proclaimed aim is to incite changes in the anthropological status of the participants in physical training) would provide better quality education and, consequently, it would lead to positive changes in the attitudes and motives for participation in PE classes and activities, to a better evaluation of the PE teaching performance, and, importantly, to the better organisation of free time of students during the school-year and holidays. The realisation of the above stated factors would substantially contribute to a reduction in addiction rates and to an increase in the habits of daily physical exercise incitation.

Let us try to transfer the acquired experience, knowledge, presented results and guidelines of this Conference into the practice of PE today, because Today is yesterday's tomorrow!

Romana Caput-Jogunica, PhD

Top level sport

Chaired by

In the morning: **Dragan Milanović,**
Maria Bulatova and **Kenneth Swalgin**

In the afternoon: **Igor Jukić, Bojan Jošt** and
Toivo Jürimäe

The Top Level Sport section was on Thursday, September 26, 2002, in the morning and in the afternoon. Both sessions were attended by a large number of participants from Croatia and abroad. The section invited Prof. Erich Müller to address the morning plenary session audience with his communication on *Challenges in optimising human sport performance*. The lecture was enthusias-

tically received, especially by the Croatian part of the participants, because of references to the Kostelić family achievements.

The morning thematic session, Symposium C *Modelling in sport*, was opened by the introductory lectures of Prof. Toivo Jürimäe *Morphological aspects in sport and health* and Prof. Bojan Jošt and his research assistants from the Faculty of Sports, Slovenia, *Expert system for talent evaluation from the longitudinal aspect*. In continuation nine contributions were presented.

In the afternoon of the same day, the work of the section was continued with the introductory lectures of Prof. Maria Boulatova and Prof. Vladimir Platonov from the Ukrainian State University of PE and Sport, University of Kiev, Ukraine, *Main directions in optimising the Olympic preparation system* and Prof. Kenneth Swalgin, PhD, *Bridging the gap between sport science and coaching*. Nine oral presentations followed: Symposium A *Analysis of sport activity* was composed of the three contributions and Symposium B *Analysis of attributes of athletes* of the six presentations.

A considerable collection of 30 poster presentations covered the contents of the same three thematic sessions from the field of applied kinesiology in top-level sport. Altogether fifty-six (56) accepted scientific and professional papers were presented during the Conference in the section Top Level Sport.

Such a great number of registered and presented contributions (several papers were rejected) is a clear indication of the outstanding interest the researchers from Croatia and abroad (more than a hundred authors from 14 countries) showed for this field of applied kinesiology.

The scientific and professional papers presented in this part of the Conference have contributed considerably to enhancing awareness of how important it is to mutually connect the theory and practice of kinesiology (scientific knowledge) and various fields of sports practice. Regarding the above mentioned, several basic conclusions can be drawn:

- Many research papers offered useful information about new approaches to planning, programming and an overall control of the sport training processes.

- The scientific materials offered lots of useful information on the new possibilities and approaches to analysing sports activities by applying up-to-date biomedical and biomechanical technologies.

- New options for analysing the characteristics of top-level athletes by applying the most sophis-

ticated basic and specific motor diagnostic procedures were introduced to the participants during the Conference.

- New knowledge was shared about the possibilities of high-quality defining of the initial, transitive and final conditioning status of athletes subjected to the training process in order to achieve top level results in sport competitions.

- By applying new computer technologies and modern mathematical and statistical methods, new perspectives for modelling and evaluating the training processes in top-level sport will be available.

All the above-mentioned and quite a number of the questions addressed to the presenters during the session make us very optimistic about the further development of research in the field of top-level sport. We believe that the importance of research studies dealing with top-level sport will continue to grow in future.

As the chairpersons of the Top-level Sport section we express our gratitude to all the researchers who presented their scientific reports in the course of the very successful oral and poster presentations.

Professor Dragan Milanović, PhD, and
Professor Igor Jukić, PhD

Sport for all, fitness and health related activities, adapted physical activity

Chaired by

Mirna Andrijašević and *Herman Berčić*

Due to the trends of the ever-increasing health-threatening hypokinesia among populations from all over the globe, various sport and recreational activities should and indeed are taking an ever bigger and more significant social and economic role in modern society. That was manifested in the large audience who attended the thematic session despite the fact that it was the last on the programme of the Conference (Saturday afternoon, September 28, 2002). However, as several participants were due to return to their homelands, only eight papers were orally communicated instead of the twelve selected. The papers presented by well-known experts gave the audience an opportunity of hearing about various topics regarding Sport for All, HEPA, adapted physical activity and other health-related issues, such as: the application of sports recreation in the area of tourism in different countries, the influence of physical exercise on human health from a medical aspect, recreational and sport participation rates and motivation of various subpopulations of different ages, place of residence and their anthropological characteristics.

Finally, various sports recreation programmes were presented.

The section invited Professor Ilkka Vuori, the director of the UKK Institute, Tampere, Finland, to give the plenary session lecture *The need and value of collaboration of multiple partners in national and international promotion of "Sport for All"*.

The significance of leisure-time sports activities lies in the fact that it can be adapted for numerous needs and in variable environmental conditions. The future development perspectives of sports recreation are predictably good because contemporary technology and a sedentary style of living interfere with human biotic needs, the satisfaction of which is a precondition for health and well-being. Research studies in the field of kinesiological recreation, presented at the 3rd Conference on kinesiology in Opatija, have raised hope and optimism for its even better and more productive application in society.

Professor Mirna Andrijašević, PhD

Biology and medicine of sport and exercise

Chaired by
Marjeta Mišigoj – Duraković,
Branka Matković and *Katarina T. Borer*



Figure 3. Chairladies of the *BIOLOGY AND MEDICINE OF SPORT AND EXERCISE* section – from the left: *Branka Matković, Katarina T. Borer* and *Marjeta Mišigoj-Duraković*

The section of Biology and Medicine of Sport and Exercise was broadly conceptualised in such a way as to comprehend the different aspects of biology and physiology of sport and exercise (the variability of somatic, functional and motor profiles of athletes and schoolchildren; the influence of sport and exercise on human hormones; sport nutrition), as well as the medical aspects of health-related physical activity (in older individuals, obese patients and patients with diabetes mellitus; physical activity

in the therapy and prevention of drug and alcohol dependence).

Introductory lecture, K.T. Borer, G. Cornellisen, F. Halberg and C. Hughes: *Health impact of training intensity in older individuals*, was presented by KT Borer.

The section was divided into two parts – an oral presentation and poster presentations. Altogether 31 accepted scientific works were presented (10 oral and 21 poster presentations) by the conference participants from ten countries from Europe and USA.

Eleven reviewers from Croatia and abroad had reviewed these conference contributions.

The presentations were discussed during the oral part of the section, and especially during the poster presentations when young scholars had an opportunity to discuss and make contacts with senior researchers and lecturers in a more informal manner.

Professors *Marjeta Mišigoj-Duraković, MD, PhD,* and *Branka Matković, MD, PhD*

Research methodology

Chaired by
Nataša Viskiĉ-Štalec, Bojana Dalbelo Bašić,
Arnold Baca and *Mike Hughes*

Seventeen papers were presented in the Research Methodology session. The introductory lecture of Professor Bojana Dalbelo Bašić *Artificial neural networks and advanced supervised learning techniques*, dealt with the basic principles of working with neural networks as an alternative to the classic statistical methods. The focus is on the possibility of anticipating and classifying cases in kinesiology when data are insufficient or in the cases when they contain noise. Professor Arnold Baca presented the paper *Methods for analysing human movement in game sports – potential and limits*.

Other researchers in the session dealt with the construction and validation of assessment tools for testing athletes and with algorithms and programs of statistical procedures for the multivariate analysis of data and procedures from the domain of the measurement theory. These algorithms and programs were implemented into the system Statistica and SPSS. Further, the procedures intended for the assessment of the quality of basketball players by means of an expert system were investigated. Additionally, the tactical models of attack and defence in handball were evaluated. The morphological characteristics and motor abilities of various kinds of student population were another subject matter, as well as the identification of the occurring

changes by means of simulated events. The performance assessment of rhythmic gymnasts, classified in various taxons according to their motor characteristics was presented.

Other issues regarded the assessment of the knowledge of English kinesiological terms acquired by physical education students, the potential of applying virtual reality in the distance learning process and in the assessment of cognitive capacities, as well as the multicriterial decision-making in the assessment of cognitive processes participation in test tasks.

The students from the University of Zagreb made a special contribution to this session by the Virtual Faculty of Kinesiology workshop.

In general it can be said that there existed an interdisciplinary approach to research studies firmly supported and conducted by the latest computer technologies. The contributions revealed that the multivariate techniques in data analyses were routine in kinesiological research studies.

Professor Nataša Viskić-Štalec, PhD

Biomechanics

Chaired by

Vladimir Medved, Mario Cifrek and Vladan Papić

The field of biomechanics was introduced on September 28, by the plenary session invited lecturer Professor Joszef Tihani, from the Semmelweis University, Hungarian University of Physical Education, Budapest, Hungary, who lectured on: **Biomechanical properties of tendons**. This lecture gave a detailed and authoritative account of the research - predominantly experimental - pursued in the world and by the author himself in this area, and prepared the audience for the biomechanics section that followed.

The section, co-chaired by Croatians Vladimir Medved, Mario Cifrek and Vladan Papić (Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split), included oral and poster presentations. Two introductory communications opened the section: V. Papić **Biomechanical analysis of human gait** and M. Cifrek **Electromyography in muscle fatigue evaluation**. These lectures provided a further framework to the field helping the audience to grasp the research methodology commonly pursued in human locomotion biomechanics.

The following oral presentations addressed diverse kinesiological subjects such as: kinematic analysis of the standing position in shooting, a biomechanical investigation of a new slalom racing technique, kinematics of high jump, a comparison

of depth landing and drop jump, a prediction of squat jump dynamics from different strength tests, and a comparison of the abdominal muscles activity during curl-up exercises in women. Special interest was caused by the presentation of the Slovenian researchers on a new slalom racing technique. The underlying reasons for this were the changes introduced by the so-called carving skis in the last decade. Vivid and sometimes even confrontational discussions developed thereafter (and continued in informal circles later). The interdisciplinary nature of the field of kinesiology was evident in that a particular physics and mechanical engineering contribution was instrumental in developing kinesiological sport performance technique. Besides, another presentation treating squat jump dynamics was noted as an example of high quality and internationally relevant research.



Figure 4. Co-chairs of the BIOMECHANICS section - from the left: Mario Cifrek and Vladimir Medved

The poster session, which followed, was well visited. It covered the following topics: technique of pace in ultra-marathon, golf, back muscle exercises, aerobics, take-off in football and **Differentiation of skeletal muscles in 9-year-old children**. The last presentation listed offered a specially high quality example of the skeletal muscle research based on neurophysiological principles and careful experimentation, provided by a well known tradition of neuro-muscular system research in Slovenia.

To sum up, the biomechanics section, as a whole, was oriented far more towards sport-related topics, whereas the pathological issues, pertaining to the field of kinesiological rehabilitation, were slightly neglected. With the fear of expressing a too subjective opinion (V.M.), it should be said that a very good atmosphere remained «in the air» after this rather small but dynamic section. Several questions, which were sparked off during the work, remained as a testimony to the importance, attrac-

tiveness and high expectations placed before the field of biomechanics in kinesiology.

Professor Vladimir Medved, PhD

Psychology of sport

Chaired by

Ksenija Bosnar and **Matej Tušak**

The thematic section *Psychology of Sport* was held on Saturday, September 28, 2002. It comprised ten oral and eleven poster presentations. The introductory lecture *Contemporary topics in sport psychology*, a state-of-the-art account by the invited speaker Prof. Matej Tušak was well received the same day at the plenary session.

The presented papers covered a wide range of topics – just to mention some: psychological correlates of sport and other aspects of motor performance, psychological differences between athletes and non-athletes, leadership behaviour traits of coaches, attitudes toward sports in a variety of sub-populations, physical activity in treating different behavioural disorders. The sixteen papers reported the results of the empirical research studies, whereas five were more or less of a theoretical nature. Most papers are original scientific contributions to the field and some of them are among the first to deal with certain scientific issues.

The great Congress Hall was well attended and a fair number of questions were asked. The work of the session was a success, for which credit goes to all the participants, both the presenters and delegates.

Professor Ksenija Bosnar, PhD

Management in sport and tourism

Chaired by

Mato Bartoluci, **Nevenka Čavlek**, **Vladimir Stipetić**, **Boris Vukonić** and **Zoran Jašić**

The session *Management in Sport and Tourism*, held on Friday, 27 September, 2002, dealt with two main issues, namely, with management in sport on the one hand, and with management in tourism on the other. No wonder then that the four co-chairs of Prof. Bartoluci were from the School of Economics, University of Zagreb, Croatia. Twenty-two papers were written to be presented in this section. Out of this number fourteen were presented orally and the remaining eight were presented on posters.

The invited introductory lecture on *Globalisation and Sport* was held by Professor Zoran Jašić, who stressed the association between these two phenomena and the implications that are

derived from this association. The emphasis of other papers was on management as the phenomenon that is nowadays an inevitable component of successful and profitable business transactions in sport and tourism. The determination of the main components of the two keynotes was presented by Professor Mato Bartoluci.

The other presenters dealt with various topics in both the aforementioned fields and addressed numerous interesting subject matters such as the neutralisation of the unfavourable aspects of managers and entrepreneurs, the role of sport management and sport marketing, the market profile of sport and tourism, the trends in sport and recreational activities of tourists in Croatia, the management of hotel sports facilities, the management of cultural tourist attractions, the advantages and limitations of the development of sports-recreational tourism in Croatia, etc. Two presentations dealt with a very important issue that is frequently and undeservedly neglected and that is the issue of communication and the linguistic, psychological and social aspects connected herewith.

Poster presentations addressed the topics on the development of higher education in sport, an entrepreneurial model of individual development for young and talented Croatian football players, the organisation of recreation supply, the promotion of recreational activities in the hotel industry, tourism and sport tourism in Hungary, the Olympic Games and tourism-specific elements connected herewith, the evaluation of recreational fishing in the Croatian tourism supply, and finally sport management and tourism in Croatia.

The discussion held upon the completion of the presentations proved to be interesting in two ways. Firstly, it showed that the two keynotes draw considerable attention from people who are either professionally or in any other way connected with them, and secondly, it showed that different points of view in a particular respect may lead to fruitful and positive decisions.

Professor Mato Bartoluci, PhD

Poster displays

There were three poster displays, which were parallel in contents to the plenary and thematic sessions of the same day. The authors were obliged to set up posters early in the morning and to disassemble them late in the evening, and to be at the disposal of the audience after the morning sessions to present personally and discuss their conference contributions. All the three poster sessions, with a total of 109 posters, were well attended, but many participants visited them prior

to the morning and afternoon sessions as well. These fairly vivid “unscheduled” hours provided extra communication opportunities of a less formal nature.



Figure 5. Poster exhibition and presentation atmosphere

The proceedings book and CD were published prior to the Conference and each participant was provided with a copy of both items with 219 conference contributions.

The journal KINESIOLOGY Editorial Board meeting

The international Editorial Board of the journal KINESIOLOGY had a productive meeting on Saturday afternoon, September 28, 2002. The atmosphere of collaboration, in which knowledge and experience in editing and publishing journals in the field of kinesiology were generously shared, is the major impression gained after three hours of, sometimes sparkling, discussion on how to improve the journal. The meeting was attended

by Jan Borms, Stjepan Heimer, Bojan Jošt, Toivo Jürimäe, Vladimir Medved, Dragan Milanović, Marjeta Mišigoj-Duraković, Erich Müller, Roland Renson, Emanuel J. Spamer, Włodzimierz Starosta, Jozsef Tihanyi, Atko Viru, Dinko Vuleta, Tsvetan Zhelyaskov and Renata Barić. Katarina T. Borer was invited as the honorary guest. Most delegates congratulated the editors for keeping up progress in quality, which was confirmed by the fact that the KINESIOLOGY is being referenced in two relevant international data bases (PsychINFO and Sport Discus). According to the information presently at our disposal, it has recently been included on the lists of the field relevant journals in Croatia, Hungary, Slovakia, Slovenia and South Africa. The topics discussed during the meeting embraced: the development of the journal through thirty years, the difficulties and solutions for raising and keeping up the even quality in all fields in the interdisciplinary journal, the responsibility of the Editorial Board and the reviewers in keeping up the quality, process of reviewing (procedure, time needed, balanced quality ...), probable Current Contents and Social Science Citation Index (ISI, Philadelphia) application, the urgency and indispensability of electronic publishing, the idea of inviting authors, review articles and other papers and editors, the considerations of publishing three issues instead of two per year (special, monothematic issues?), revision of sections to comply with contemporary classification and research in kinesiology, the revival of the section Editors' work, the opening of a forum for young scientists, more balance in section presentations and others.



Figure 6. The participants of the KINESIOLOGY Editorial Board meeting – from the left- sitting: Włodzimierz Starosta, Marjeta Mišigoj-Duraković, Katarina T. Borer, Renata Barić, secretary, Ž. Jaklinović-Fressl, executive, Emanuel Johannes Spamer; standing: Erich Müller, Bojan Jošt, Tsvetan Zhelyaskov, Atko Viru, Stjepan Heimer, editor, Dragan Milanović, editor-in-chief, Jan Borms, Dinko Vuleta, Toivo Jürimäe, Roland Renson, Jozsef Tinanyi and Vladimir Medved, editor.

The social programme was also rich - it included a welcome reception after the opening ceremony, a boat excursion along the Kvarner Bay coast, the Dean's VIP evening reception and a dancing party on the Saturday evening. Most participants enthusiastically participated with "full speed" in all the events.

The three-day long work-shop *The virtual Faculty of Kinesiology, Zagreb*, was prepared by the students who applied virtual reality technology as a means of producing their practical work for the elective subject Quantitative Methods, taught in the 4th year of the curriculum. Interested visitors could walk through and interact with objects in the gymnasium, lecture rooms, library and corridors of the Faculty and select from which perspective they want to watch the students exercising (e.g. performing spikes in volleyball). The students have taken a lot of digital pictures and have started to create the virtual conference in-situ, but their work will be finished later this year.

Postgraduate students from the Faculty of Kinesiology and research novices managed to organise spontaneously a few informal discussion "coffee-breaks" with several prominent researchers and scholars between the programmed conference activities. The lack of time for such youngsters-meet-prominent-seniors opportunities was the major objection the participants directed at the organisers.



Figure 7. Juniors meet seniors: from the left in the first row: Dragan Milanović, Tsvetan Zhelyaskov, Atko Viru, Igor Jukić; the second row: Kenneth Swalgin, Toivo Jürimäe, Erich Müller and "juniors" in the world of kinesiology research.

The closing ceremony was held on September 29, 2002, "very early in the morning" (due to the dancing party the day before). Franjo Prot, Włodzimierz Starosta, Mike Hughes and Dragan Milanović gave short accounts of the past four days. A promotion film about the 8th ECSS Congress, which will take place in 2003 in Salzburg, Austria, was presented as the invitation to meet again soon.



Figure 8. Mike Hughes, UK, speaking at the closing ceremony

The speakers expressed their gratitude to the participants, invited speakers, section leaders, technicians, organiser and hosts in the hotel who had all made the Conference possible and a success.

Although it was rather cold, rainy and windy at the beginning, Opatija, the well-known "old lady" of the Croatian seaside resort tourism has been a charming host to the Conference and its participants. It provided a colourful, somewhat aristocratic framework and atmosphere with its villas, promenades by the sea and parks. The Grand Hotel Adriatic personnel contributed a lot to the comforts and success of the Conference.

The conference revealed all the impressive diversity and strength of our field of science(s) and emphasized its interdisciplinary and crossdisciplinary nature. We hope that the noticeable growing trend in the participation rates and in the quality of contributions and debate will be continued throughout the future conferences which are to be held in a "triennial-cycle-periodization" rhythm.

Looking forward to meeting you, dear reader, in Opatija (again) in the year 2005.

Collected, edited and written by
Željka Jaklinović-Fressl

REPORT OF THE IX. WORLD «SPORT FOR ALL» CONGRESS “SPORT FOR ALL AND ELITE SPORT: RIVALS OR PARTNERS?”

Arnhem, the Netherlands, October 27-30, 2002

In late October of 2002 the 9th World Congress Sport for All was held in Papendal, the Olympic Centre of the Kingdom of the Netherlands near Arnhem, under the really topical and challenging title *Sport for All and Elite Sport: rivals or partners?* During four days of conference work the participants from all over the world discussed issues related to the announced theme, either through oral presentations in plenary and thematic sections, or by poster presentations.

The arrival day was like Doomsday – a beyond-living-memory storm with galeforce winds struck this part of the Netherlands and took four lives. The Amsterdam airport Schiphol was closed and many of the honourable invited guests could not be present at the opening ceremony.

Jacques Rogge, the president of the International Olympic Committee, who was supposed to speak first at the Congress opening ceremony, was held up by the weather. The second speaker who should have addressed the audience was His Royal Highness the Prince of Orange, but due to a sudden death in the family, he could not be present either.

So, Walter Tröger, the IOC member and Chairman of the IOC Sport for All Commission, opened the ceremony. He expressed his satisfaction that the movement Sport for All had joined the family of Olympic sports in which it received special attention.

Then followed the speech of Madam Clémence Ross-van Dorp, [*Attention, please! Author's note*] the Netherlands State Secretary for health, welfare and sport. She focused, naturally, on the role of sport, especially sport for all, in health protection and promotion, in the prevention of chronic non-contagious diseases and in improving the quality of life.

Pekka Puska, the director of the World Health Organisation Department for Non-Contagious Diseases Prevention and Health Promotion, welcomed the Congress and expressed wishes for its successful work on behalf of the General Director of WHO Madam Gro Harlem Brundtland, the former Prime Minister of the Kingdom of Norway.

Hans Blankert, the president of the Netherlands Olympic Committee and Netherlands Sport Fede-

ration (NOC*NSF) welcomed the participants on behalf of the Netherlands athletes.

The work of the Congress started the next day with a small opening ceremony and speeches by Walter Tröger, Paavo Komi, the Chairman of the Programme Committee, and Theo Fledderus, the General Secretary of NOC*NSF. Their speeches were mostly dedicated to various organisational and programme tasks that had been performed during the preparation of the Congress.

The first block of plenary session lectures, under the title “Conditions for sport for all and elite sport” addressed the conditions of the separated and common functions of these two areas of sport. Maarten van Bottenburg, the Research Director Muller Institute, Centre Research on Sport in Society, advocated for changes in the organisational structures of sports in countries worldwide which should provide conditions for equal development in both areas of sport. Peter Franklin, Director, Olympic Management the Coca-Cola Company, indicated the importance of mutual well-being emerging from links between mega sponsor firms and sports, competitive and recreational alike.

The same day parallel thematic sessions were held with free communications in which the organisational, social and commercial roles and positions of sport for all in numerous countries were highlighted from diverse aspects.

The second block of plenary lectures was entitled “Goals for Sport for All in relation to elite sport”. Professor Roland Renson, from the Katholieke Universiteit in Leuven (Belgium) accentuated in his lecture “Inclusion or exclusion? Possibilities and limitations for interaction between Sport for All and elite sport” the differences and similarities between these areas. He concluded that elite sport had been transformed into show-business, characterised by excessive rules, bio-engineering and pharmacolization. On the other hand, the postmodern *homo ludens* created his/her personal mixture of activities which, to be fair, also included components of modern sport disciplines, local traditional games, new street games and sport activities of foreign cultures. Therefore, he stated, there is little space for unity of elite sport and sport for all.

Pekka Puska, as a true representative of WHO, presented his contribution "Sport and physical activity as a part of a healthy life style". He put forth the already well-known and verified views about physical activity as an essential factor of healthy and qualitative life styles, especially when it is combined with healthy nutrition, non-smoking and the avoidance of health-endangering substances. The importance of physical activity has become ever greater due to the fact that, in countries worldwide, regardless of the state of their social and cultural development, the number of chronic, non-contagious diseases is on the increase constantly and that the number of premature deaths provoked by hypokinesia (insufficient physical activity) has reached 2 million a year. And these diseases and their consequences can be prevented by the application of adequate physical activity. Therefore, he stressed that movement and exercise promotion could not be the issue of an individual exclusively, but of the entire society, i.e. national states. WHO actively participates in the Sport for All promotion by its proclamations and recommendations. Among other things, WHO has invited its membership to organize a yearly manifestation on the World Health Day, April 7, under the title World Movement Day as a reminder to countries and people of how important movement and exercising are in the promotion of health protection for the wide population. WHO seeks partners and associates in the organization and implementation of life-long physical activity, in which the sports community should have a significant role.

The third plenary session was entitled "The benefits of differentiating target groups within sport". The Dean of the College of Sport Management, the Beijing University of Physical Education, Chunlin Qin presented the the most recent experiences of the People's Republic of China, whereas the IOC Sport for All Commission member Peter Kapustin presented experiences in Germany.

The fourth plenary session "Guidance and support in Sport for All and in elite sport" focused on: issues of implementing current scientific findings and inferences in the improvement of sport policy and management quality (Paul de Knop, Belgium), the role of volunteers generally in sports and in Sport for All in particular (Anita White, Great Britain), and the role of experts in elite and Sport for All (John Boulton, Australia).

The fifth plenary session had a significant title "Challenges for the future". The former Olympic champion and actual President and Chief executive Officer of the Olympic Aid International Johann Olav Koss (Canada) spoke about solidarity in top-level sport and Sport for All. His colleagues from Kenya, Bob Munro, the founder and chairman of the Board of Trustees Mathare Youth Sports Association, and Kipjunge Keino, the former Olympic champion and actual IOC member and President of the National Olympic Committee of Kenya, had a communication "Giving youth a sporting chance: Combining sport and development in the Mathare slums".

In the total of 20 parallel thematic sessions many diverse themes were presented by the authors worldwide. The common denominator of them all was the thought, confirmed by research evidence and experience, that the movement Sport for All should be developed further and the message spread all over the globe. The Croatian delegates of the Croatian Sports Recreation Union "Sport for All" "Sport za sve" (HSSR) presented a poster and had a short communication on "Top-level sport – health as a precondition; Sport for All – health as a goal", in which certain health-related differences between elite and sport for all were displayed. Additionally, the communication was a forum for the delegates to inform the audience about the situation of Sport for All in Croatia.

To conclude, the activities and functioning of the Croatian Sport for All Association is in accordance with the European and world trends, but substantial support of the government administration, particularly its departments responsible for health care, education and sport, is missing. Mass media of communication are also not very interested in the Sport for All movement activities. An extra effort should be made in motivating these segments of the state administration to pay more attention and participate more in promoting the life-long active style of living. The permanent policy of all the mentioned relevant factors in Croatia should be focused on motivating the entire population to participate in organised, systematic forms of exercise, aimed at health protection and promotion, as well as at the improvement and preservation of working and functional abilities. All these will eventually contribute to a better quality of life.

Stjepan Heimer

REPORT OF THE 7th ANNUAL CONGRESS OF THE EUROPEAN COLLEGE OF SPORT SCIENCE

Athens, Greece, June 24-28, 2002

Quest for truth

«... To have come this far is no small achievement: what you have done already is a glorious thing.»

With these words of Kavafya, the Greek eucumenical poet, Prof. Vassilis Klissouras, the founding member of the ECSS and the president of the 7th Annual Congress of the European College of Sport Science, welcomed the participants to the opening ceremony of the largest European meeting of sport scientists.

We wonder if it is pretentious to claim that ancient Athens, or more precisely ancient Greece, was that immeasurable tiny nucleus – singularity, from which the World of Sport was born in the Big Bang? The World of Sport is constantly expanding like space, and no one can determine its final frontiers. This World is old almost 3,000 years (2778 years have passed since the first recorded Olympic Games of the ancient times), whereas motion/movement, the foundation stone of sports, is as old as the human race. To explore and explain this World, to answer the questions: where?, when?, how?, why? ... is the ultimate daily intellectual challenge for the people who call themselves sport scientists. When more than 1,000 people of that kind are simultaneously gathered in the same place, then such a meeting is «...not merely the impartation and acquisition of knowledge, but the **quest for truth**», as Professor Vassilis Klissouras said.

The largest European «quest for truth» was undertaken in Athens, Greece, from 24th till 28th June, 2002. «... Under the unique light of Attica...» (V. Klissouras) in the Glyfada Bay in the Divani Apollon Palace the 7th Annual Congress of the European College of Sport Science took place. The organisers were the Department of Sport Medicine and Biology of Physical Activity of the Faculty of Physical Education and Sport Science, University of Athens, under the patronage of the European Parliament, the European Commission, the International Olympic Committee, the European Olympic Committees i the Greek Ministry of Education, Ministry of Health and Ministry of Culture. In 11 congress halls during three days (25th, 26th and 27th July, 2002) or 157 working hours, 1089 abstracts were presented. In the statistics of the Scientific Programme, prepared

by G. Vagenas, Sport Statistics Laboratory, University of Athens, and published in the Proceedings (Table 1), we read that 640 abstracts, or 59%, were presented in the poster display. In the thematic symposia, 351 abstracts, or 32%, were orally communicated, whereas 98 abstracts, or 9%, were presented in the plenary sessions.

Table 1. Distribution of abstracts according to the type of presentation (G. Vagenas, Proceedings)

	Type	f	%f
PRESENTATIONS	SYMPOSIA	98	9
	ORAL	351	32
	POSTER	640	59
	O =	1089	-

In the Proceedings, 1089 abstracts were published on 1124 pages in two volumes. Each volume contains the index of 2439 authors «from over 60 countries worldwide» (V. Klissouras). Graph 1 presents the statistics on the distribution of the authors per abstract: in 7% of abstracts (76 abstracts) seven or more authors were listed.. The most frequent are abstracts with two (21% or 229 abstracts), three (22% or 240 abstracts), or four authors (20% or 218 abstracts).

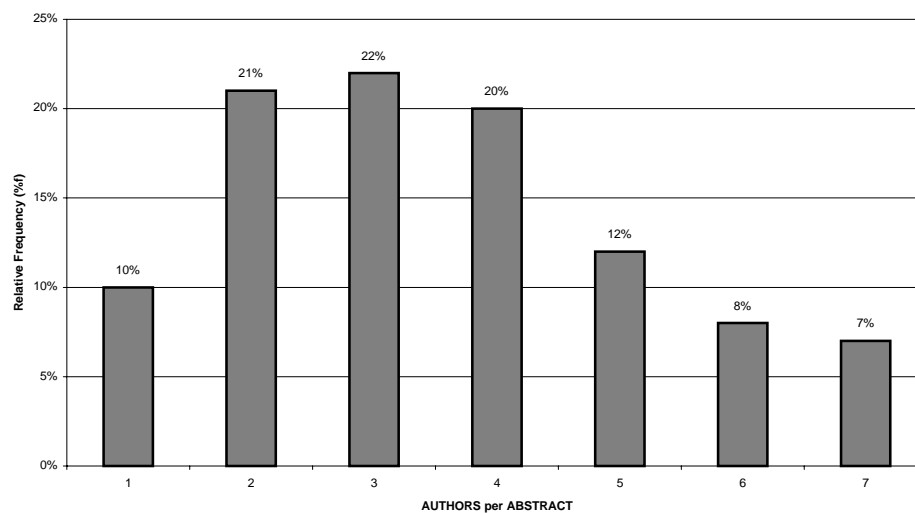
Nickos Geladas, Assistant Professor, Chairman of the Local Scientific Committee, in his preface to the congress proceedings said: «ECSS has developed to an international leading force in the biological, medical, behavioural and social aspects of human movement.» Is the ECSS really the leading force in the mentioned fields, as N. Geladas stated, is to be left up to anyone's personal estimation and profound analysis. Yet, the prevalence of the biological and medical aspects of sport science at the 7th Annual Congress of the European College of Sport Science can be confirmed by the statistical data presented in the proceedings (Graph 2). The accepted abstracts were classified into thirteen thematic units: Sport Management, Adapted Physical Activity, Coaching and Sport Performance, Physical Education, Sport Sociology and Pedagogy, Sport History and Philosophy, Sport Psychology, Health and Fitness, Molecular Biology and Genetics, Nutrition and Biochemistry, Sport Medicine and Rehabilitation, Biomechanics,

Physiology. The unit Physiology included 22% of all the abstracts, which substantially exceeded the number of abstracts in any other unit. The Sport Medicine and Rehabilitation unit incorporated a further 13%, Nutrition and Biochemistry 9%, Molecular Biology and Genetics 2%, whereas Health and Fitness consisted of 8% of the abstracts. The five listed thematic units pertain to the biological and medical field of sport science research and embrace 54% of all the accepted abstracts. The prevalence of biological and medical issues is more than obvious, but it is simultaneously proof in favour of the crossdisciplinarity of sport science. This interdisciplinarity is an indispensable and logical consequence of the expansion of the World of Sport into all spheres of human life. There were three more thematic units that included a

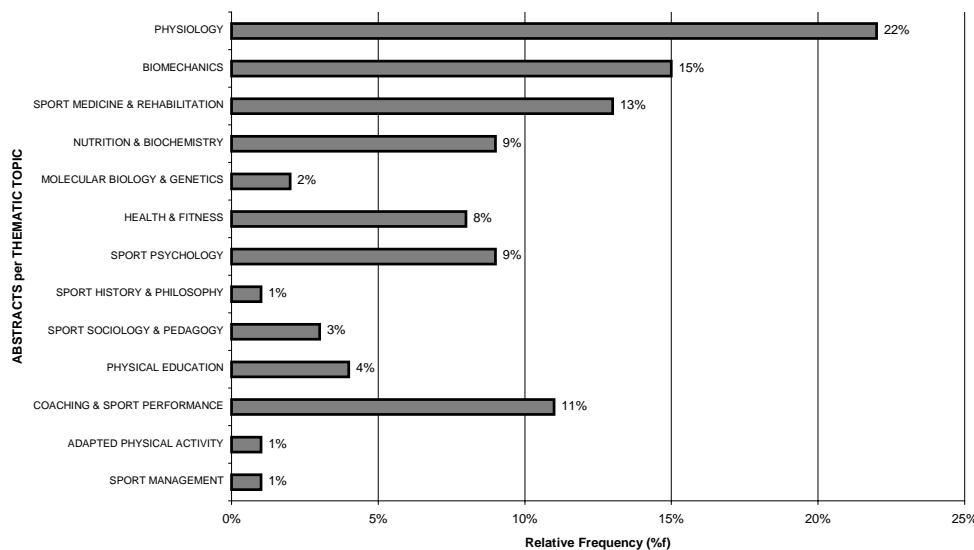
greater percentage of abstracts: Biomechanics 15%, Coaching and Sport Performance 11%, and Sport Psychology 8%. The rest of the five thematic units together contained 10% of the abstracts.

Where are we going?

In Greece one meets history at every step. History is a component of the Greek present time and the Greeks do not wish, nor try, nor can escape from it. No visitor can isolate oneself from this historical atmosphere. No wonder, then, that at the beginning of the new millennium, everyone wished to look back and see what had been achieved in sport science and what findings had become the common heritage of people and the World of Sport.



Graph 1 – Distribution of the number of authors per presentation (abstract) - (G. Vagenas, Proceedings)



Graph 2 – Distribution of the number of presentations (abstracts) per thematic topic - (G. Vagenas, Proceedings)

An historical overview opened the congress in Athens. Prof. Bengt Saltin, from the Copenhagen Muscle Research Centre, Rigshospitalet and University of Copenhagen, Denmark presented the lecture on A.V. Hill. The first president of the ECSS integrated the past and the present in his communication *On the Trails of A.V. Hill: Maximal Oxygen Uptake in the Context of Gene Expression* and suggested one of the future directions in scientific research in sport science: «Based on the present and daily expanding literature in the field, my proposal for where to search for a final 'answer' ... would be to look at genes...»

After such a brilliant opening, the finish could not be less glamorous, innovative and provocative. Denoted as the congress's highlights, the Socratic Debate introduced two prominent scholars in an argued confrontation: Joe Maquire, from the Department of Physical Education, Sport Science and Recreation Management, Loughborough University, UK, who spoke in favour of the thesis – *Sport Globalisation: Going Global*, and Roland Renson, from the Faculty of Physical Education and Physiotherapy, K.U. Leuven, Belgium, who advocated for the thesis – *Sport Globalisation: Going Native*. Social transformation is a permanent and continuous process. It seems nowadays that globalisation is a prevailing phenomenon of this uninterrupted chain of changes. The Socratic Debate, therefore, put the universal phenomenon of sport in a context of globalisation in a pursuit of answers to the questions Where are we going? Where are sport and sport science going? Going global or going native?

Is sport a globalisation agent because of its nature to pass through national borders in an easy, frequent and painless manner? Or is it, quite the contrary, a counter-balance to globalisation? Athletes are members of national teams, they perform beneath their national flags and sing their national anthems. Or is sport neither of these? Or is it, maybe, simultaneously both? What benefits and what losses brings globalisation to sport? Who is the winner and who is the loser in global sport? What is the relationship between global sport and the traditional national sports and games? Do certain sports, which have become real global events, present a threat and to which extent to traditional (folk) games? Is there a danger that the latter will vanish? And if it exists, must we and how should we stand up against the disappearance of the ludic heritage of Europe (R. Renson), and

Asia, and Africa, and of all other continents, regions, and cultures? Should sport accentuate more national and traditional values or should it be a painless, simple and a quick way of connecting the people of the world, thus surpassing narrow local and national frameworks? Are sports arenas in the global world places in which diverse intolerances and animosities can be solved? Can sport unite? Can and should sports arenas replace battlefields? What is the relationship of the World of Sport with the WORLD in general, which has become a global village? Answers to these and many other similar questions will, probably, determine the destiny of the World of Sport. If destiny can be determined and influenced at all.

And we asked ourselves while we were pondering over ideas expressed in the Socratic debate and while we were waiting for the Young Investigators Awards announcement, what about Croatia and its position in the World of Sports? The significance, role and popularity of Janica Kostelić, Goran Ivanišević, Zvonimir Boban, Toni Kukoč, or Dražen Petrović in the World of Sports are great and immeasurably important for Croatia. Would it be pretentious if we claim that they are the results and successes of Croatian sport science – the Zagreb school of kinesiology? In its 40-year long tradition it has become a real pioneer of the European kinesiological school of thought, the ideas and research achievements that have been presented on the pages of this journal as well. A substantially greater presence of researchers from the Faculty of Kinesiology, University of Zagreb, at international congresses of the size and importance of the ECSS would do no harm, regardless whether they appear there as authors or participants. Namely, such meetings are ideal opportunities for the promotion of not just personal scientific achievements, but of the achievements of the institutions we are affiliated with - the University of Zagreb and the Faculty of Kinesiology, which implicitly means that the Zagreb school of kinesiology could be more representatively promoted among the international scientific community.

We have returned to Croatia from the Athens's European sport science summit with two memorabilia: the first is a hear-felt invitation to Salzburg, Austria, the host town of the 8th Annual Congress of the European College of Sport Science 2003, and the second is a strong wish to return to Athens in 2004 to attend the largest global sport event - the XXVIII. Olympic Games of the modern era.

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