Editor's Notes

The ISBS Newsletter has developed into a fine professional document over the past few years, through the extended efforts, imagination, dedication and persistence of one individual Dr. Hans Gros. From the NEWSLETTER'S early days Hans had taken on the task of editor with such zest that in many instances the contributions were manifested from the pen of the editor. He took the NEWSLETTER through its lean times without complaint or question, and kept us informed with many bits of information.

As time went on Hans was able to generate sufficient interest in the NEWSLETTER so that the ISBS membership were making regular contributions. He was also instrumental in convincing the Board that the Society should have an international Logo and thus he conducted the mail vote for the logo search and acceptance.

It is not a complete break for Hans from the NEWSLETTER, as he will still act on the editorial Board as the "Past Editor". But please allow me the privilege of thanking Dr. Hans Gros for all his wisdom, effort and dedication to the ISBS NEWSLETTER and its establishment. Hans, once again a job well done and thank you.

BILL MORRISON

ISBS - NEWS

Well here we are into a new decade with a new logo for the Society and also a new editorial Board for the NEWSLETTER. As Hans has pointed out in the Fall 1989 edition of the Newsletter, the Board of Directors has approved a new structure put forward by Blaine Hoshizaki (V.P. Publications). The publications committee will consist of the V.P. Blaine Hoshizaki, Hans Gros (Past Editor) and the editorial team of Lela June Stoner and myself (Bill Morrison).

Hopefully the new format will continue to deliver the NEWSLETTER in a quality suitable to the membership. Remember this is your NEWSLETTER therefore its content will depend on you. Feel free to submit material to any of the members of the publications committee.

BILL MORRISON
Editor

Message from the Executives

Blaine Hoshizaki
Vice-President, Publications

Two years ago when I decided to undertake this position it was with the intention of improving the quality of the publications produced on behalf of our Society and to decrease the time required to print the proceedings from each congress. I am pleased to say that with the help of the conference chairpersons we are completely caught up with the proceedings which at one time were four years behind. As I am sure you are aware this was only possible by the fine efforts of Dr. Lefaris Tsarouchas, Dr. Juris Terauds, Dr. Ellen Kreighbaum and Dr. Bill Morrison. I am also pleased to announce that Bill Morrison and Lela June Stoner are now working together to continue producing the newsletter with the same high standards set by Hans Gros. I believe we owe Hans a great deal of gratitude for his commitment and skill in producing the newsletter for so many years. Thank you Hans.

Finally, I had one other project on my agenda and that was to produce a strategy to launch a journal for Applied Biomechanics of Sport. I have prepared a document for consideration by the executive, at the Prague Congress, 1990. The intention of the journal is to provide an opportunity for our members to participate in the society even if they are unable to attend the conference. It is hoped that this will allow a broader range of publications and a better exchange of papers related to the applied aspects of our profession. Clearly the goal of all academic societies is to provide an opportunity for its members to participate and interact at an academic level. It is my belief that through quality publications this goal is more easily attained.
Special Reference Materials from 1989


Pawlowski, D., Perrin, D.H., Relationship between shoulder and the elbow isokinetic peak torque, torque acceleration energy, average power, and total work and throwing velocity in intercollegiate pitchers. Athletic Training (Dallas, Tex.) 24 (2), Summer 1989, pg. 129-130,132.


Bahr, L., Stride length: The key to speed. Running times (Beverly Hills, Calif.) 152, Sept 1989, pg. 20, 22.


Luhtanen, P., Relationships of individual skill, tactical understanding and team skills in Finnish junior basketball Proceedings, VII International Symposium of Biomechanics in Sport (Footscray, Australia) 1989, pg. 73 - 78.

United States Tennis Association

USTA Announces Research Grants Available

PRINCETON, NJ - Individuals currently involved in tennis research are encouraged to apply for United States Tennis Association 1990 Research Grants.

"The USTA is very interested in original research being conducted on the many aspects of tennis," explained Paul Roetert, coordinator of research for the USTA, and administrator of the grant program. "In coordination with the USTA Player Development Program, new findings are a key element in helping American players reach their potential."

If you are independently, or in conjunction with academic institutions, exploring information related to the teaching or playing of tennis, you may be eligible for a USTA Research Grant. During 1989, 18 grants were awarded on a wide range of topics including minority youths and tennis participation, illness and injury.
tracking of junior competitive tennis players, dietary counselling and its effect on performance, the ability of tennis coaches to predict anxiety levels in their athletes and the effects of counterforce bracing on wrist and forearm muscle function.

For 1990, the USTA has set aside $15,000 in grant money. Awards will range from $250 to $1,000. Research results can be presented in the form of a report, thesis paper or project summary. Information gained from these efforts will be widely disseminated by the USTA to tennis players and coaches.

Interested individuals should write for an application form to Susan Corwin, USTA, 717 Alexander Road, Princeton, New Jersey 08540-6399. Completed grant applications must be returned to Princeton by June 1, 1990. Grant decisions will be made by July 9, 1990 and all applicants will be notified.

**UPDATE**

**VIII International Symposium of Biomechanics in Sports**

A recent letter from Dr. Petr Susanka has shed additional light on the symposium program and influencing factors. The happenings in Czechoslovakia at the end of 1989 were most unexpected. However, the liberation and democratization has disrupted some of the Symposium organization. With the new structure, many of the guarantees were lost and a re-organization had to be developed.

From an organizational standpoint the ISBS Symposium is back on-line and we will be using well equipped facilities, lecture halls, video studios and accommodations, previously used by the communist political school. Also, the video festival and exhibition is organized and there will be a reception plus some social activities made available. The symposium will pay for all transit buses and public transportation fares for all participants.

The ONLY condition which must be met is that of pre-registration. The Symposium requires no less than 50 fully paid pre-registration participants. The registration fee is $200.00 (U.S.) and it must be in Prague by April 23, 1990.

We are turning to you the members of ISBS to ask you to help us with the ensuring number of participants. The promotion was interrupted by our "velvet" revolution, however we firmly believe we will catch up the delay with your help.

We thank you in advance for your help.

With Regards

Petr Susanka
ISBS Organizing Committee

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**The Athletic Coaching Program at the University of Jyvaskyla**

*Dr. Pekka Lahtinen*
**Faculty of Physical and Health Education**
**University of Jyvaskyla**
**SF-40100 Jyvaskyla, Finland**

The Faculty of Physical and Health Education at the University of Jyvaskyla is the only university level faculty in this field in Finland and as such has the main responsibility for carrying out research and development in the various fields of physical education. The faculty's research activities take place within department and in cooperation between departments (Figure 1). Permanent staff and research facilities provide a basis for long-term planning and research. Modern research tools of biomedicine and biomechanics are used in investigations, a considerable number of which have been designed and built in the faculty.

**Basic Teaching in the FPHE**

The degree program is constructed on a goal-oriented multidisciplinary plan. It is designed to develop and equip the student with the scientific expertise needed in the professional field. There are areas of specialization within the faculty such as teaching physical education, coaching, physiotherapy and administration. The study program for the degree of master of science in physical education consists of general studies, basic studies, subject studies and specialized studies. The general and basic studies are common for all students within the faculty. The subject and specialized studies are specific for each course. The extent of each course is 160 study weeks (about five years). Each study week is meant to require on average 40 hours of study.

The department of Biology of Physical Activity (DBPA) has the main responsibility for the training of coaches, and in connection with
the Department of Health Sciences, the training of physiotherapists. The graduated coaches work in sports organisations (Sport association - club), universities and sports institutes coaching, educating coaches, developing the sport and performing research in coaching.

Degree Structure in Coaching Program

Specialization in coaching provides competence and qualification to perform tasks related to training management, research and development work in sports coaching and to act as a specialist coaches.

The training of coaches' 160 study weeks include 2600 compulsory hours in lessons, practice and seminars (Table 1).

There are 37 obligatory courses for all students together in general and basic studies.

Research oriented courses are as follows:

<table>
<thead>
<tr>
<th>study weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

The contents of the coaching program in specialized and deeply specialized studies can be seen in the Tables 2 and 3.

Table 1
The contents of the master degree in coaching

<table>
<thead>
<tr>
<th>Contents</th>
<th>Lessons</th>
<th>Practice</th>
<th>Seminars</th>
<th>Study Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General Studies</td>
<td>190</td>
<td>193</td>
<td>36</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>(45%)</td>
<td>(46%)</td>
<td>(9%)</td>
<td></td>
</tr>
<tr>
<td>2. Common PE Studies</td>
<td>384</td>
<td>242</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>(58%)</td>
<td>(37%)</td>
<td>(5%)</td>
<td></td>
</tr>
<tr>
<td>3. Specialized Studies in Coaching</td>
<td>345</td>
<td>387</td>
<td>92</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(42%)</td>
<td>(46%)</td>
<td>(12%)</td>
<td></td>
</tr>
<tr>
<td>4. Deeply Specialized Studies In Coaching</td>
<td>114</td>
<td>262</td>
<td>134</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>(22%)</td>
<td>(52%)</td>
<td>(26%)</td>
<td></td>
</tr>
<tr>
<td>(Compulsory) In Total</td>
<td>1040</td>
<td>1084</td>
<td>296</td>
<td>145</td>
</tr>
<tr>
<td>(Optional)</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

Relatively (%): 43, 45, 12
Table 2. The specialized studies in the coaching program

<table>
<thead>
<tr>
<th></th>
<th>Lesson (hrs)</th>
<th>Practice (hrs)</th>
<th>Seminar (hrs)</th>
<th>Study Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anatomy and Physiology</td>
<td>6</td>
<td>8</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>2. Management and Organization</td>
<td>18</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Basic Course in Different Sports</td>
<td>94</td>
<td>201</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>4. Advanced Course in a Special Sport Event</td>
<td>84</td>
<td>120</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td>5. Biochemistry and Biophysics</td>
<td>30</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6. Mechanics</td>
<td>24</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7. Exercise Physiology</td>
<td>8</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>8. Biomechanics</td>
<td>40</td>
<td>16</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>9. Kinesiology</td>
<td>20</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10. Research Methods</td>
<td>30</td>
<td>20</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>11. Introduction Into Research Work</td>
<td>48</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>In Total</strong></td>
<td><strong>354</strong></td>
<td><strong>387</strong></td>
<td><strong>92</strong></td>
<td><strong>42</strong></td>
</tr>
<tr>
<td>Relatively (%)</td>
<td></td>
<td>42</td>
<td>46</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 2
From the point of view of research the specialized studies include one course in biomechanical research methods, two preparing seminars one in biomechanics and one in a special sport event and practical introduction into research work.

Table 3. The deeply specialized studies in the coaching program

<table>
<thead>
<tr>
<th></th>
<th>Lesson (hrs)</th>
<th>Practice (hrs)</th>
<th>Seminar (hrs)</th>
<th>Study Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Biology of Coaching</td>
<td>40</td>
<td>20</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>2. Sports Medicine</td>
<td>13</td>
<td>12</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>3. Philosophy of Sports</td>
<td>15</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. Psychology of Sports</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5. Theory and Practice of Training</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>6. A. Biomechanics or</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>B. Physiology or</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>C. Psychology in Coaching</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>7. Practical Training of Coaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(School, Club, Association and Sports Institute, Testing Station)</td>
<td>24</td>
<td>130</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>8. Research Work I (project)</td>
<td>80</td>
<td>54</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9. Research Work II (project)</td>
<td>30</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>In Total</strong></td>
<td><strong>114</strong></td>
<td><strong>262</strong></td>
<td><strong>134</strong></td>
<td><strong>49</strong></td>
</tr>
<tr>
<td>Relatively (%)</td>
<td>22</td>
<td>52</td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

Table 3
These studies include two preparing seminars for research projects I and II. These are seminars in biology of coaching and theory of training.
Table 4. An optional sub program of the coaching program for testing.

<table>
<thead>
<tr>
<th>Course</th>
<th>Study Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research and Testing Methods</td>
<td>4</td>
</tr>
<tr>
<td>2. Biology of Coaching</td>
<td>4</td>
</tr>
<tr>
<td>3. Special Requirement in Testing</td>
<td>3</td>
</tr>
<tr>
<td>4. Automatic Data Processing in the Testing Stations</td>
<td>3</td>
</tr>
<tr>
<td>5. Biomedical Special Problems in Testing</td>
<td>4</td>
</tr>
<tr>
<td>6. Practical Training in the Testing Stations</td>
<td>6</td>
</tr>
<tr>
<td>7. Business and Administration In Sport</td>
<td>2</td>
</tr>
<tr>
<td>8. Literature</td>
<td>4</td>
</tr>
<tr>
<td><strong>In Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

The main research projects carried out during recent years have been supported by the Ministry of Education, University of Jyvaskyla, The Finnish Olympic Committee, Sports Associations and different Foundations. Examples of the research have been listed as follows:

1. Mechanism of neuromuscular function

II. Endurance and its training

III. Speed and its training

IV. Training and measurement of strength, explosive force and muscle elasticity

V. Profiles and techniques of various sport events, and

VI. Biomechanics research in physiotherapy

Every year departments of the faculty receive several visiting researchers from different parts of the world and from other Universities in Finland. The effect of this international research cooperation is also seen from the considerable number of faculty researchers who take part in international scientific congresses conferences and symposia.

### COMING EVENTS

**April 26 - 27**
Centre for Biomechanics at Chalmers University, Sweden
Gunilla Ekman
Centre for Biomechanics
Chalmers University of Technology
S-41296 Göteborg Sweden

**May 27 - June 1**
RAI International Congress and Exhibition Centre Amsterdam
XXIVth FIMS World Congress of Sport Medicine
RAI Organisatie Bureau Amsterdam bv
Europaplein 12
1078 GZ Amsterdam, Netherlands

**June 3 - 7**
World Congress on Sport for All
P.O. Box 151
SF-00141 Helsinki, Finland

**June 4 - 6**
Pre-Conference Workshop, Cologne FRG
Athletic Centre of the German Sports University
Institut für Leichtathletik und Turnen
Deutsche Sporthochschule Köln
Carl-Dien Weg 6
D - 5000 Köln 41, FRG.

**June 7 - 10**
Techniques in Athletics - The First International Conference
Institut für Leichtathletik und Turnen
Deutsche Sporthochschule Köln
Carl-Dien Weg 6
D - 5000 Köln, FRG.

**July 3 - 9**
Czechoslovakia Association of Physical Culture, Prague
VIII International Symposium of Biomechanics in Sport and Video Festival.
Dr. Karel Onft
UV CSTV
Spartakiadi U, 160 00 Praha 6
CSSR.
July 9 - 13
University of St. Andrews, Scotland
First World Scientific Congress of Golf
Department of Physical Education
University of St. Andrews
St. Andrews, Fife KY 16 9DY Scotland, U.K.

August 30 - September 4
University of California, San Diego.
The First World Congress of Biomechanics
AMES - Bioengineering R - 102
U.C.S.D.
La Jolla CA 92039

September 7 - 11
The Liverpool Polytechnic, Liverpool U.K.
Sixth International Symposium in Biomechanics and Medicine in Swimming
Centre for Sport and Exercise

ISBS Conference Proceedings

HALIFAX - 1986
The published papers as well as the up and coming publications of the Halifax Conference are available through the following contact:

Dr. Juris Terauds
Sport Science
Colorado State University
Fort Collins, Colorado, USA 80523

ATHENS - 1987
The proceedings of the Fifth International Symposium of Biomechanics in Sports, held in 1987 at Athens, Greece, can be obtained from:

Dr. E. Tserrouchis
Director of Biomechanics
Hellenic Olympic Committee
Sports Research Institute
37 Kifissias Avenue
Maroussi, Athens, Greece

BOZEMAN - 1988
The proceedings of the Sixth ISBS Symposium held in 1988 in Bozeman, Montana, USA are available at a cost of $30 (US) plus postage ($3 in US; $4 in Canada and $5 overseas). Make payments to ISBS 6th Symposium - MSU and send orders to:

Melanie Stocks,
Conference Coordinator
Conference Centre
Strand Union Building
Montana State University
Bozeman, Montana USA 59717

FOOTSCRAY - 1989
Proceedings of the Seventh International Symposium of Biomechanics in Sports held in July 1989 at the Footscray Institute of Technology are available at a cost of $30.00 for members, $40.00 for non-members, $30.00 for Libraries or Institutions, plus $3.00 for postage and handling. Payments and requests should be directed to:

Anne Hicks
Administrative Officer
Department of Physical Education and Recreation
Footscray Institute of Technology
Footscray Victoria 3011 Australia

ISBS FAX DIRECTORY
To encourage communication between ISBS members the FAX Directory is provided. Report your FAX number to the Newsletter editors, and it will be placed on the Directory. If your number changes please notify the editors.

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Gros, Hans (W. Germany)
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Kreighbaum, Ellen (USA)
(1) 406-994-2893

Luhtanen, Pekka (Finland)
358-41-291830

Mason, Bruce (Australia)
(61) 62-51-2668

Morrison, Bill (Australia)
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Muraki, Yuki (Japan)
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Osturello, John (USA)
(1) 415-886-4674

Susanka, Petr (Czechoslovakia)
(42) 2-53-1149

Terauds, Juris (USA)
(1) 303-491-0445

Tsarouchas, Eleutherios (Greece)
683-4021

Waddell, David (Canada)
(1) 416-527-0100
INTERNATIONAL SOCIETY OF BIOMECHANICS IN SPORTS  
(PLEASE PRINT)

NAME: ___________________________ ___________________________ DEGREE:

Last   First

TITLE: ___________________________ OCCUPATION: ___________________________

WORK ADDRESS: ___________________________

DEPARTMENT: ___________________________

INSTITUTION: ___________________________

STREET: ____________________________________________

CITY: ___________________________, State/Province ___________ ZIP: ___________

COUNTRY: ___________________________ TELEPHONE: ___________________________

HOME ADDRESS: ___________________________

STREET: ____________________________________________

CITY: ___________________________, State/Province ___________ ZIP: ___________

COUNTRY: ___________________________ TELEPHONE: ___________________________

MAJOR SPORTS INTERESTS: (In order of preference) I _____ II _____ III _____

3. Athletic Injuries  18. Gymnastics, Women  32. Squash
5. Baseball/Softball  20. Handball, Team  34. Swimming
8. Boxing  23. Ice Skating, Figure  37. Track - Jumps
13. Fencing  28. Sailing/Board Sailing  42. Wrestling
15. Football  30. Skin/Scuba Diving  44. Other

MEMBERSHIP: Professional - $20/year, Student - $5/year

I am enclosing my dues for the year(s) indicated:  1990 $20 _____

(Membership Year: 1 January thru 31 December)  1991 $20 _____

1992 $20 _____

Total: $ _____

Signature: ___________________________ Date: ___________________________

Mail completed form and dues to:

John Z. Ostarello  OUTSIDE THE U.S.A.?
Treasurer - ISBS  PLEASE USE AN INTERNATIONAL
Dept. of Kinesiology & Physical Education  OR U.S. POSTAL MONEY ORDER
California State University, Hayward  TO SEND FUNDS.
Hayward, California 94542, U.S.A.