

International Society of Biomechanics in Sports Newsletter



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President's Message: Hans Gros

Who's Who in ISBS?

Communication amongst and with all ISBS members has become ever more important and, with the use of modern information technology, easier. In order to facilitate the exchange of information and resources I plan to implement a search tool on the ISBS home page. In conjunction with a growing and up-to-date data base, this tool can be used to search for a person, a biomechanist with a specific expertise or colleagues in a specific country. Basically, the search engine will browse the data for any key-word supplied. You may try the general idea by directing your browser to:

<http://www.uni-stuttgart.de/External/isbs/>

Choose 'Conferences' from the index and then select the search option. This will allow you to search the available Conference Proceedings (Table of Contents) for any key-word. While you are at it I invite you to have a close look at the ISBS home page. I would gratefully appreciate any criticism, feedback on omissions, and suggestions for improvement. With respect to the on-line membership database I urge all ISBS members to become part of this valuable pool of information by submitting the following data:

- name
- degree
- affiliation
- address
- phone number
- FAX number
- E-mail address
- sports interest
- research interest(s)
- current project(s)
- link to your personal or institution home page
- any other relevant comment you would like to add

All of this should be very brief. If you choose to submit only part of the data (eg. without phone or FAX number) that's fine too. By submitting the information you give your consent for the inclusion of this information into the ISBS membership database on the ISBS home page.

Please send the information via E-mail, FAX or regular mail to:

Hans J. Gros, PhD
Institut fuer Sportwissenschaft
Allmandring 28
70569 Stuttgart
GERMANY
FAX: +49 711 6857226
E-mail: hans.gros@sport.uni-stuttgart.de

I invite you to visit the excellent home page of ISBS 98:

<http://www.isbs98.uni-konstanz.de/>
and hope to meet you all in Konstanz this Summer! (Editor's Note: Down Under Winter!)

Hans Gros

News

The Journal of *Isokinetics and Exercise Science* has offered substantially reduced subscription rates for ISBS members. For more information direct your Browser to:

<http://www.iospress.nl/html/journals.html>

or send mail to: IOS PRESS. Your message should include the title of the Journal and your postal address. Identify yourself as ISBS member !

Vice Presidents' Reports

VP Awards: Eugene Brown

On behalf of the Awards Committee of the ISBS we are attempting to get a broad base of input on potential candidates for future Dyson Awards. Please note that the Geoffrey Dyson Award recognises sport scientists who, throughout their professional careers, bridge the gap between biomechanics research and practice in sport. It is the most prestigious award of ISBS because it is a recognition of individuals who embody and carry out the mission of our Society.

The following is a list of past recipients:

- Prof. Gerhardt Hochmuth, Research Institute for Physical Culture and Sport, Leipzig, GDR
- Dr. Marlene Adrian, University of Illinois at Urbana-Champaign, USA
- Dr. Bruce Elliott, University of Western Australia, AUSTRALIA
- Dr. Elizabeth Roberts, University of Wisconsin, Madison, Wisconsin, USA
- Prof. Vladimir Zatsiorsky, Central Institute of Physical Culture, Moscow, Russia and Pennsylvania State University, USA
- Dr. Doris I. Miller, University of Western, Ontario, CANADA
- Prof. Gert-Peter Brüggemann, Institute for Athletics and Gymnastics, German Sport University, Cologne, GERMANY
- Dr. Patrick J. Bishop, University of Waterloo, Ontario, CANADA
- Dr. David A. Winter, University of Waterloo, Ontario, CANADA
- Dr. Pekka Luhtanen, Research Institute for Olympic Sports, University of Jyväskylä, FINLAND

We are attempting to build up our pool of potential candidates for consideration. For this reason it would be appreciated if you could give this matter serious consideration and send me one or more names of people that you think exemplify the Dyson Award. The names of potential candidates can be sent to:

Eugene Brown
ISBS VP Awards
Institute for the Study of Youth Sports
Department of Physical Education & Exercise Science
Michigan State University
204 IM Sports Circle Building
East Lansing MI 48823 USA

Phone: +1-517-353 6491
FAX: +1-517-353 5363
E-mail: ewbrown@pilot.msu.edu

Thank you for your help!

Eugene Brown

VP Research & Projects: Larry Noble

Research Project Summary

Two research projects are being conducted this year: (1) 1997 Softball Hitting Project (SHP), and (2) 1997 World Gymnastics Research Project (WGRP). The SHP project involves the analysis of 3D videographic recordings of members of the 1994 USA Women's Softball Team while hitting several pitched balls during batting practice. Under the sponsorship of the Steadman-Hawkins Sports Medicine Foundation, a research team coordinated by Sherry Werner prepared the videotape and associated materials for distribution to those submitting acceptable research proposals. The WGRP involves the analysis of instrumentation, 3D videographic recordings of selected acrobatic jumps, difficult vaults, and horizontal bar and uneven bar elements at the 1997 World Gymnastics Championships held in Lausanne, Switzerland, August 31 - September 7, 1997. Under the sponsorship of the Institute of Applied Training Science, the FIG and the gymnastics apparatus manufacturer Spieth, a research team coordinated by Juergen Krug prepared the videotape and associated materials for distribution to those submitting proposals to ISBS which were favourably reviewed. Solicitation for proposals was placed in the ISBS Fall Newsletter, on the ISBS home page, and on the BIOMCH-L bulletin board.

Materials have been distributed to support the following projects:

Softball Hitting Project

1. Miriam Satern, Western Illinois University, USA. *The applicability of the kinetic link principle to Olympic female softball hitters.*

Softball Hitting Project (Continued)

2. Stephen Kinzey, University of Mississippi, USA. *Elite women's softball hitting: A kinematic analysis.*

World Gymnastics Research Project

1. John Newton & Philippa Armitage, Leeds Metropolitan University, England. *A comparison of kinetic and kinematic data generated in the performance of a normal backward giant swing, and the performance of a backward giant swing prior to a release element on men's horizontal bar (Horizontal bar).*
2. John Newton & Philippa Armitage, Leeds Metropolitan University, England. *An analysis of the kinematic and kinetic data generated in the performance of the Kovacs, and the backward giant preceding it, on men's high bar (Horizontal bar).*
3. Spiros Prassas, Colorado State University, USA. *Technique analysis of uneven bars dismounts and release skill (Uneven bars).*
4. V.A. Sholuha, A.V. Zinkovsky, & A.A. Ivanov, St. Petersburg State Technical University, Russia. *Investigation of the complexly coordinated gymnastics movements by computers synthesis of adequate anthropomorphic model (Horizontal and uneven bars).*
5. Yukio Takeda et al. Komazawa University, Tokyo, Japan. *Kinematic and kinetic analysis of handspring forward and double salto forward tucked (Vaulting Horse).*
6. Tetsu Yamada et al. Komazawa University, Tokyo, Japan. *Relationship between joint torque and elasticity of the bar to rotational velocity increases in the giant swing (Horizontal and uneven bars).*

ISBS supported the costs of reproducing and distributing materials to ISBS members.

The purpose of these projects is to facilitate research in sports biomechanics by making videographic, cinematographic, and other materials available to researchers who were not part of the data collection team. If you have a data base (eg. instrumentation videotapes, film, dynamographic recordings) that you think other researchers might be interested in and would like to consider sharing, please contact me.

I would like to express my appreciation to members of the research committee for making these projects successful: Spiros Prassas, USA; John Newton, England; Juergen Krug, Germany; Miriam Satern, USA; Sherry Werner, USA.

Larry Noble

VP Publications: Julie Steele

Newsletter Deadlines

Two ISBS Newsletters will be published each year, one in October (Fall/"Down Under" Spring Edition) and one in April (Spring/"Down Under" Fall Edition). Deadlines for the receipt of material will therefore be September 1 and March 1 each year. Material to this Newsletter can be submitted in any form but please supply your E-mail and/or FAX address with any report so that further information can be obtained from you if required. Start sending YOUR contributions for the next ISBS Newsletter now to:

Julie R Steele
VP Publications ISBS
Department of Biomedical Science
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Northfields Ave
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AUSTRALIA

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NOTE: My E-mail address has changed (although the old address will still work for a while!)

NEXT DEADLINE: September 1 1998

Editorial Thanks!

Just a note of thanks to my Editorial Assistants from the Biomechanics Research Laboratory, University of Wollongong, who proof read this Newsletter to try and minimise my errors!

- Bridget Munro
- Dianne Riddiford

Julie Steele

ISBS Executive Council Directory

Following the elections in April the ISBS Executive Council will change. However, until the results of these elections are confirmed, the current members of the ISBS Executive Council and their contact information are listed below. Please feel free to contact any member of the Executive if you wish to discuss matters relevant to ISBS.

President:

Hans Gros
Institut für Sportwissenschaft
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70569 Stuttgart GERMANY
Phone: +49-711-6853177
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Past President:

Renato Rodano
Centro Di Bioingegneria
(Politecnico
di Milano - Pro Juventute Fnd.)
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20148 Milano ITALY
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FAX: +39-2-404 891 9
E-mail: rodano@regolo.cbi.polimi.it

Vice President Awards:

Eugene Brown
Physical Education and Exercise Science
Michigan State University
204 IM Sports Circle Bldg
East Lansing MI 48823 USA
Phone: +1-517-353 6491
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E-mail: ewbrown@pilot.msu.edu

Vice President Conferences:

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FAX: +1-807 343 8944
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Vice President Publications:

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Vice President Public Relations:

João Abrantes
Laboratorio de Biomecanica
Faculdade de Motricidade Humana
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Vice President Research & Projects:

Larry Noble
Department of Kinesiology
Kansas State University
8 Aheam Natatorium
Manhattan KS 66506 USA
Phone: + 1-913-5326979
FAX: + 1-913-5326486
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Secretary General:

Stuart Miller
Faculty of Cultural and Education Studies
Leeds Metropolitan University
Beckett Park, Headingley
Leeds LS6 3QS UK
Phone: +44-113 283 2600
FAX: +44-113 283 7575
E-mail: S.Miller@lmu.ac.uk

Treasurer:

Manfred Vieten
University of Konstanz
FG Sportwissenschaft
Universitätsstrasse 10
P.O. Box 5560 D 30
D-78434 Konstanz GERMANY
Phone: +49-7531-883565
FAX: +49-7531-883026
E-mail: manfred.vieten@uni-konstanz.de

ISBS Elections: It's Voting Time Again.....

Dear ISBS members,

The time has come for you to vote on the officials who will run ISBS on your behalf. Listed below are the names and positions of those candidates who have accepted nominations. Names are listed underneath the posts for which they have been nominated. Brief profiles of each candidate have also been included in this Newsletter so that you can make an informed decision on who to vote for. Furthermore, details of the duties of each position can be found on the ISBS home page (click on "Constitution"). Please read the general information and instructions carefully before voting. All members are urged to exercise their right to vote, and to take the time to consider their votes carefully. To record your actual vote, a ballot slip has been included as a separate sheet with this Newsletter.

You may have already received this ballot via E-mail earlier in March. Those members who may have voted already via E-mail but wish to change their preferences based on the information provided in the profiles may do so. Just fill out the ballot form again and clearly indicate that you have changed your vote by writing "CHANGE OF VOTE" on the top of the form.

On behalf of ISBS, I would like to thank all members for their continued support of the society.

Stuart Miller

General Voting Information

1. In accordance with the ISBS Constitution and By-Laws, officers are to be elected every year. This year, these include:
 - President Elect
 - Vice President of Publications
 - Vice President of Public Relations
 - Vice President of Research and Projects
 - (up to) 11 Directors.
2. Officers are elected by a simple majority. Thus, for each of the above positions, the person(s) who obtain the greatest number of votes will be duly elected.
3. Only members in good standing may vote. Please ensure that your name is included on your return in order that they may be checked against the current membership list and duplication prevented.
4. Only one vote per member is allowed. No votes on behalf of others will be accepted.
5. Ambiguous, blank and spoiled returns will be discarded.

Voting Instructions

1. On the ballot form provided with this Newsletter, place a cross in the box next to the name of the candidate you wish to vote for.
2. If you do not wish to vote for any of the candidates shown on the ballot, then do not place a cross in any box.
3. Candidates have been listed in alphabetical order. Their current country of location is also given.
4. Return the completed form to the Secretary General by 30th APRIL, 1998 (return envelope post-marked by this date) to:

Stuart Miller
ISBS Secretary General
Faculty of Leisure and Sports Studies
Fairfax Hall
Leeds Metropolitan University
Beckett Park, Headingley
Leeds, LS6 3QS ENGLAND
FAX: +44 113 283 7575

5. Questions regarding any aspect of the voting procedure should be addressed to the Secretary General at the above address.

ISBS Elections 1998 - Nominations

PRESIDENT

Eugene Brown USA
 Ross Sanders Australia
(Select no more than 1 candidate)

VICE PRESIDENT OF PUBLICATIONS

Julie Steele Australia
(Elected Unopposed)

VICE PRESIDENT OF PUBLIC RELATIONS

Renato Rodano Italy
(Elected Unopposed)

VICE PRESIDENT OF RESEARCH

Al Finch USA
 Larry Noble USA
(Select no more than 1 candidate)

DIRECTORS

- | | |
|---------------------|-----------|
| 1. João Abrantes | Portugal |
| 2. Rafael Bahamonde | USA |
| 3. Bing Yu | USA |
| 4. Barbara Gowitzke | Canada |
| 5. Jackie Hudson | USA |
| 6. Bojan Jost | Slovenia |
| 7. Ellen Kreighbaum | USA |
| 8. Pekka Luhtanen | Finland |
| 9. Laurie Malone | Canada |
| 10. Richard Smith | Australia |
| 11. Rene Therrien | Canada |
| 12. Dan Wilson | USA |
| 13. Joachim Wolf | Germany |
| 14. San Yeon Woo | Korea |
| 15. Young-Hoo Kwon | USA |
- (Select no more than 11 candidates)*

ISBS Profiles: Who Are You Voting For?

In an attempt to allow you to vote in an informed way, brief profiles of each candidate standing for election for the ISBS Executive Council and Board of Directors are provided below. The profiles have been written based on information provided by each candidate. Profiles for the positions of Vice-President Publications and Vice-President Public Relations have not been included as these candidates have been elected unopposed.

President

Eugene Brown, PhD

Nationality: American
Current Position:
 Faculty Member
 Physical Education and Exercise Science
 Michigan State University
 204 IM Sports Circle Bldg
 East Lansing MI 48823 USA
 E-mail: ewbrown@pilot.msu.edu

Relevant Information:
 Eugene Brown has been a member of ISBS since 1984. During this time, he has served the Society in a variety of roles. These have included memberships on the Executive Council (Secretary General, 1990 - 93; and Vice President of Awards, 1995 - present), Board of Directors, and on various ad hoc committees.

As the Vice President of Awards, Gene developed a set of documents that were used for the first time

in Madeira, Portugal to systematically evaluate the abstracts and presentations of members competing for the New Investigator Award. These documents, which can be viewed on the ISBS home page (click on "Awards"), can be helpful to all members in preparing and delivering professional presentations. He developed the documents to facilitate the identification and selection of other ISBS awards recipients. Gene developed an Awards Committee poster which was shown for the first time at our symposium in Denton, Texas and will be on display this year in Konstanz, Germany. This poster highlights the history of ISBS awards and award recipients, and introduces the Society to the newly selected award recipients.

Gene is currently serving on the International Scientific Committee for the XVIth ISBS Symposium to be held in Konstanz, Germany, a function that he has performed for previous

symposia. To date, Gene has attended and presented at 10 of the 15 ISBS symposia. Gene has also encouraged his graduate students to become actively involved with ISBS by motivating them to present papers and car pooling with them to symposia that have occurred in North America. One of his doctoral students, Sang Yeon Woo, was the recipient of the 1997 New Investigator Award.

Gene received his undergraduate degree from the State University College at Cortland, New York. He completed a Masters degree at the University of Iowa and a Doctoral degree in Physical Education at the University of Oregon with an emphasis in the biomechanical analysis of physical activity. Gene is a faculty member of the Department of Kinesiology at Michigan State University (MSU) where he teaches undergraduate and graduate courses in structural and biomechanical analysis of physical activity. At MSU, he is also a faculty member of the Institute for the Study of Youth Sports (YSI). His role in YSI is threefold: writing educational materials (eg. *Youth Soccer - A Complete Handbook* and *Program for Athletic Coaches Education*), conducting in-service training programs for individuals involved at various levels of youth sports, and researching the biomechanics of youth involvement in sport. His interest in biomechanics and youth sports has resulted in studies of sport performance, as well as studies of injury mechanisms, in young athletes.

Gene has a keen interest in the sport of soccer which he has coached at the collegiate level. He has served as a volunteer soccer coach with youth teams since 1973, beginning with his oldest son's team. He has also coached his second son's team and is possibly finishing up his role as volunteer coach, now that his daughter is a college freshman.

If selected to the position of President of ISBS, Gene has identified the following as goals to be achieved:

- increase recognition of ISBS from professional, sport, and lay groups;
- improve the scientific quality of presentations, published abstracts and papers associated with annual symposia;
- review the constitution and by-laws;
- develop documentation for each elected position to guide and facilitate the activities of ISBS officers;
- increase active membership;
- develop incentives to recruit student members and to assist them in becoming active in the Society;
- develop a Society archive; and
- facilitate and foster activities that bridge the gap of understanding between biomechanics researchers and sports coaches.

Ross Sanders, PhD

Nationality: Australian
Current Position:
Senior Lecturer in Biomechanics
School of Biomedical and Sports Sciences
Joondalup Campus
Edith Cowan University
Joondalup 6027 Western Australia
AUSTRALIA
E-mail: rsanders@eagle.ac.cowan.edu.au

Relevant Information:
Ross Howard Sanders has been an active member of ISBS since 1989. During that time he has served on the Board of Directors almost continuously since 1992. He is also currently working extensively for ISBS as Conference Convenor for the XVII International Symposium of Biomechanics in Sports to be held in Western Australia, 1999 (see an update later in this Newsletter) and on the Scientific Committee for

the XVI ISBS Symposium to be held in Germany this year.

Ross initially undertook a Diploma in Teaching and Diploma in Health & Physical Education both at Wollongong Institute of Education, Wollongong. He then pursued a Bachelor of Education at Newcastle College of Advanced Education, followed by a Masters Qualifying and a Doctor of Philosophy, both at the University of Queensland, Australia. Apart from 7 years as a high school Physical Education teacher, Ross has held academic positions as a Lecturer in Biomechanics at the University of Otago, New Zealand and his present position, since July 1996, at Edith Cowan University.

Ross's current major research interest is the process of skill acquisition. The general questions he is currently addressing include: 1. What is

skilled performance, that is, what kinematic and kinetic features are characteristic of skilled performance? 2. How is performance optimised, that is, which variables change to improve performance in specific activities? 3. What are the underlying mechanical and motor control principles that apply to learning specific sports skills? 4. How readily can an intrinsic neuromuscular pattern be changed by extrinsic task demands? At present these questions are being addressed through research that examines: analyses of techniques and changes with ability in aquatic activities, such as swimming, flat-water kayaking, and water polo; changes in technique with learning of twisting skills in diving, gymnastics, and trampolining; changes in movement patterns with ability and learning in fundamental whole body tasks; and frequency domain analysis of movement rhythms. Ross's current research projects: include the development of three-dimensional filming and analysis techniques in swimming and kayaking; development of data collection methods to obtain accurate estimates of lift and drag forces in swimming and kayak paddling; and skill acquisition in swimming. Among the main initiatives in this area has been the determination of lift and drag coefficients of an accelerating hand. Ross has also been investigating underlying movement rhythms in fundamental movements and means of establishing or restoring functional coordination.

Having coming from a very *applied* background in sport, Ross is very eager to ensure that science is applied to sport. If elected as President of ISBS, Ross's major thrust in office would be *taking it to the streets*. That is, Ross is passionate that we, as sport biomechanists, must increase our efforts to disseminate scientific information on sports injury

and technique to coaches and athletes in ways that can be understood and applied. For this reason Ross has restructured the format of the ISBS99 Symposium to include applied sessions aimed at facilitating interchanges between scientists, coaches, and athletes.

Ross's commitment to communicating his research findings is reflected in his extensive publication record, with articles published in both discipline based journals (eg. *Journal of Biomechanics*, *Journal of Applied Biomechanics*, *Australian Journal of Science and Medicine in Sports*, *Human Movement Sciences*) as well as more applied journals (eg. *Swimming Technique*, *Masterscrawl*). He has also presented his work extensively at international, national and local seminars, presenting regularly at ISBS conferences since 1989. In recognition of the quality of his work he was invited as a keynote speaker at the XIII International Symposium on Biomechanics in Sports held in Thunder Bay, Ontario in 1995. A full listing of Ross's publications and presentations for the past five years can be found on his personal home page: (http://www.fste.ac.cowan.edu.au/~blaw/sports/dr_ross_sanders.html).

Apart from his academic pursuits, Ross has a love for the beach and the water and actively competes in Masters surf championships. Not neglecting family issues, Ross recently participated in a relay swim to Rottnest Island with his wife, Lesley, son Duncan (17) and daughter, Kimberley (14), completing the 21 km swim in 6 hours and 19 minutes!

Vice President of Research

Alfred Finch, PhD

Nationality: American
Current Position:
Professor & Director of the Biomechanics
Laboratory and Exercise Science Division
Physical Education Department
Indiana State University
Indiana, USA
E-mail: pmfinch@scifac.indstate.edu

After gaining a BSc (Physical Education, K-12 Teaching) at the University of Connecticut, Al completed both a Masters and a PhD in Biomechanics at the University of Maryland. His main research projects currently focus upon development of rehabilitation protocol parameters for Conva-Lift Active Traction Prototype and biomechanical analyses of a new putter prototype (for more information see the web site at

www.sportsci.com/wildman/). He was a member of the Research Filming Group at the 1996 Atlanta Olympic Games for the International Track & Field Coaches Association, responsible for collecting track and field research video and uploading it on to the Internet (for more

information see the web site at www.arielnet.com). Al was also a member of the Research Filming Group at the 1981 United States Sports Festival at Indianapolis, Indiana.

Larry Noble

Nationality: American
Current Position:
Professor
Department of Kinesiology
Kansas State University
8 Aheam Natatorium
Manhattan KS 66506 USA
E-mail: lnoble@ksu.ksu.edu

Relevant Information:

As a member of ISBS since 1984, Larry has been working as Vice President for Research and Projects from 1992 until 1998. In this role he has been instrumental in developing the research projects that have been described in previous Newsletters and described within his report in the current Newsletter (see Vice President Research & Project's Report on page 3). Previous to this, Larry was Chair of the Softball and Baseball group (1984-86) and has regularly been a member of the Board of Directors. He has also been an active participant and presented at numerous ISBS symposia.

After completing a BS (major: Physical Education, minor: Mathematics) at Eastern Kentucky

University, Larry gained a MA (Physical Education/Biomechanics) at the University of Maryland. He then moved to the University of Texas at Austin to complete a PhD, majoring in Physical Education with a specialisation in Exercise Physiology. Larry's main research interests focus upon biomechanical factors related to the design of striking implements, such as softball and baseball bats, and tennis racquets. More recently Larry's research has focussed on vibrational and inertial characteristics of striking implements affecting performance and preference.

Larry's professional interests have predominantly focussed on bridging the gap between research theory and practice, particularly in sport. Towards this end, Larry has been extensively involved in consulting activities with industry to improve bat design, to analyse and improve work-station design to increase effectiveness and to prevent injury, and as an expert witness in litigation related to his areas of expertise.

Directors

Note: Some profiles were not available at the time the Newsletter was printed. These profiles will be placed on the ISBS home page as soon as they are available.

João Abrantes, PhD

Nationality: Portuguese
Current Position:
Laboratorio de Biomecanica
Faculdade de Motricidade Humana
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1499 Lisboa Codex
PORTUGAL
E-mail: jabrantes@fmh.utl.pt

Relevant Information:

João has been an active member of ISBS over many years, holding the positions of Director and, his current position, as Vice President of Public Relations for ISBS. João was also Chairman and host of the XIV International Symposium on Biomechanics in Sports held in Funchal, Madeira, Portugal in June 1996.

Rafael E. Bahamonde, PhD

Nationality: American

Current Position:

Assistant Professor of Physical Education
School of Physical Education PE 264
Indiana University-Purdue University
Indianapolis,
901 West New York Street
Indianapolis, Indiana 46202-5193 USA
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Relevant Information:

Rafael received a PhD in Biomechanics with a minor in Anatomy from Indiana University, Bloomington, Indiana. Prior to his current position, he was an Assistant Professor of Biomechanics & Anatomy at Ball State University. His research interests are in sport biomechanics and gait analysis, with an emphasis on racquet

sports (tennis) and injury prevention. He has been the author or co-author of several publications (*Journal of Applied Biomechanics, Isokinetic Exercise, Journal of Strength & Conditioning* etc.) and numerous oral presentations (40+) to a variety of groups (ISBS, ACSM, ASB, International Congress of Biomechanics, United States Tennis Association etc.). Rafael has also worked with or received grants from the United States Olympic Committee, United States Tennis Association, Consumer Safety Commission, Puerto Rico Olympic Committee and other similar agencies. An ISBS member since 1995, Rafael states that he is honoured to be nominated for the Board of Directors of ISBS, and feels that his academic experiences in teaching, service and research has prepared him well for this position. He looks forward to the opportunity to serve ISBS.

Bing Yu, PhD

Nationality: People's Republic of China

Current Position:

Assistant Professor
Division of Physical Therapy
Department of Medical Allied Health Professions
CB# 7135 Medical School Wing E
The University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-7135, USA
E-mail: BYU@CSS.UNC.EDU

Relevant Information:

After gaining a BSc (Biomechanics) at the Beijing Institute of Physical Education, China, Bing completed a MS (Biomechanics) at Kansas State University, Kansas followed by a PhD with a major in Biomechanics and a minor in Statistical/Anatomy in 1993 from the University of Iowa, Iowa. He has held numerous teaching/instructing and research assistant

positions at these institutions, prior to gaining a post-doctoral research fellowship and an instructors position at the Mayo Clinic and Mayo Foundation, Rochester, Minnesota and then commencing his current position in 1996. Bing has published numerous (20+) manuscripts in both scientific and applied journals (*China Sport Science, Journal of Biomechanics, Journal of Applied Biomechanics, Journal of Sports Sciences, Track Coach, IEEE, Journal of Rehabilitation Research and Development, Journal of Orthopaedic Research, American Journal of Sports Medicine, and Clinical Biomechanics*). He has also presented over 30 papers at local, national and international seminars. Bing's research has predominantly related to track and field (triple jump, discus, and javelin), weight lifting, biomechanical methodologies, and stair climbing.

Barbara Gowitzke, PhD

Nationality: American and Canadian citizenship

Current Position:

"Retired" - since 1989
143 Woodview Crescent
Ancaster Ontario L9G1E8
CANADA
E-mail: gowitzke@hwfn.on.ca

Relevant Information:

After gaining a BSc (Boston University Sargent College) and a MEd (University of North Carolina, Greensboro), Barbara completed a PhD at the University of Wisconsin, Madison in 1975. She has held academic positions at the University of Texas, University of North Carolina, Wheaton College (Norton, Mass.), Boston University Sargent College, and the University of Wisconsin

in the USA before moving to Canada in 1971 to take up a position at McMaster University. Barbara has been a prolific author, with numerous articles in both refereed and non-refereed journals; two editions of her textbook *Scientific Bases of Human Movement*, and many presentations at local, national and international conferences, including ISBS. Barbara has been an active member of ISBS since 1984. She has attended all but 2 of the 15 ISBS symposia held to date! Barbara has also been the Co-editor of three symposia proceedings, Vice-President and Chair of the Awards Committee for 6 years and a Director (or Officer) since 1985. Barbara's research interests have predominantly focussed on

biomechanics applied to racquet sports (badminton), rapid limb movement: spatial and temporal patterns, electromyographic patterning in rapid limb movement, and fitness and the older adult. Since retiring, these interests have expanded to include the hazards of smoking and, in particular, the effects of second-hand smoke. As a volunteer, Barbara has helped with education, advocacy, and administration of programs and organisations, all concerned with tobacco smoke and its impact on health. In recognition of her efforts Barbara was named "Woman of the Year for 1996 in Health or Sports and Fitness" in the City of Hamilton (Ontario).

Jackie Hudson

Nationality: American
Current Position:
Associate Professor
Department of Phys. Ed. & Exercise Science
California State University, Chico,
CA 95929-0330 USA
E-mail: jackie_hudson@macgate.csuchio.edu

Jackie has been an active member of ISBS since 1982, attending 13 of the 15 conferences. Jackie has presented/published 16 papers (including those co-authored with students. She is currently a Director of ISBS and seeks re-election to this position.

Ellen Kreighbaum, PhD

Nationality: American
Current Position:
Department Head and Professor of Biomechanics
Department of Health and Human Development
Montana State University
Bozaman, Montana 59717 USA
E-mail: ahdek@trex.oscs.montana.edu

Fitness Equipment Design. However, she has also authored and co-authored manuscripts, particularly in both applied sports journals and in conference proceedings (18+ international professional papers and numerous professional papers at national, regional and state conferences). She has also supervised over 15 graduate student theses.

Relevant Information:
After gaining a BSc in Physical Education and English (University of Wisconsin-LaCrosse), and a MA (University of Southern California), Ellen completed a PhD in Biomechanics at Washington State University. Since that time she has held numerous academic and advisory positions, teaching undergraduate and graduate courses related to biomechanics, kinesiology, and research methods. As Director of the Biomechanics Laboratory at Montana State University, Ellen has also acted as adviser to many sports medicine and biomechanics majors and graduate students. Ellen is probably most well known for the fundamental biomechanics texts that she has authored, including *Biomechanics: A Qualitative Approach for Studying Human Movement* and *Sports and*

Other scholarly pursuits include positions as a reviewer for journals (including *International Journal of Sport Biomechanics*, *JOPERD*, *Medicine and Science in Sport and Exercise*), and text manuscripts for four publishing companies. Ellen has been actively involved in ISBS as a charter member since 1982. She has held the positions of President (1989-1992), Past President and a member of the Board of Directors since 1983. She has been on several Scientific Committees for ISBS symposia, being Co-editor of the Proceedings of the VI International Symposium for Biomechanics in Sports held at Montana State University in 1988.

muscle syndromes with botulinum toxin, dynamic accuracy of reconstructed angular estimates using the Ariel Performance Analysis System™, lumbar spinal moments in chronic back pain patients during supported lifting as well as the effects of balancing and shoeing of the forelimb feet on

kinematic gait analysis in horses with navicular disease. Dan has also actively participated in ISBS symposia, presenting his work at those meetings held in Texas, Madeira, Thunder Bay and Amhearst.

Joachim Wolf, PhD

Nationality: German
Current Position:
Scientific Officer
Olympic Training Center Stuttgart
Mercedesstr. 83
D-70372 Stuttgart
GERMANY
E-mail: jo.wolf@osp-stgt.s.shuttle.de

Relevant Experience:

At the Olympic Training Centre, Jo's main role involves applying scientific methods in various areas of performance diagnostics to maintain and improve the performance of the elite athletes. From an academic point of view most of Jo's work has focussed upon the cinematographic analysis (2D and 3D) of motion. If elected to the Board of Directors of ISBS, Jo is keen to become actively involved in the workings of the Society.

San Yeon Woo

No profile available

Young-Hoo Kwon, PhD

Nationality: Korean
Current Position:
Assistant Professor
Biomechanics Lab, PL 202
Ball State University
Muncie, Indiana, 47306
USA
E-mail: ykwon@bsu-cs.bsu.edu

Relevant Information:

After gaining a BS in Astronomy and a MEd in Physical Education (Biomechanics), both from Seoul National University, Korea, Young-Hoo moved to Penn State University, Pennsylvania, to complete a PhD in Exercise Science & Sport Science (Biomechanics). He has held several

academic and research positions, including Biomechanist and Software Engineer at Penn State University and Head, Biomechanics Department, Korea Sport Science Institute, Seoul, Korea, and his current Assistant Professorship. Young-Hoo has several publications in both Korean (eg. *Korean Journal of Sport Science*, *Korean Journal of Sport Biomechanics*) and international journals (eg. *Journal of Applied Biomechanics*). Young-Hoo's research interests include 3-D motion analysis, underwater motion analysis, computer simulation and gait analysis. Further details of these research interests, publications and other relevant details can be found on Young-Hoo's home page [<http://www.cs.bsu.edu/~ykwon/>].

How Can We Best Contact You?

As I stated in the President's message, easy communication amongst ISBS members is a very important prerequisite for the efficient exchange of information and resources. Sometimes things become complicated or don't work properly. One reason is that we live in different computer environments, ie. use different hard- and software which at times is not compatible. I have often experienced the benefits of a working interaction and the frustration if one can't read a file.

In an attempt to work out the best way we can keep in contact with you, a questionnaire has been included. The questionnaire has the purpose of facilitating information exchange via the Internet. Some of the questions have been kept open on purpose and you should feel free to submit all, or part, of the answers. Use separate sheets if necessary. Please send the information via E-mail, FAX or regular mail to Hans J. Gros at the address listed on the bottom of the questionnaire.

Please take a few minutes to fill out the questionnaire so we can keep those lines of communication open!

Communication Questionnaire

Name: _____ E-mail: _____

FAX: _____

General Information

- Do you prefer to be contacted via?
E-mail FAX Regular Mail
- What platform and operating system do you use?
Platform: _____ Operating System(s): _____
- Do you have Internet access?
At work At home
- Does your company/institution provide free Internet access ?
Yes No
- Is cost a limiting factor to your Internet access ?
Yes No
- How are you connected ?
Modem Direct
- Does your system handle SVGA Resolution?
Yes No Don't Know
- Do you have WWW access?
Yes No

WWW Browser

- Which browser (version) do you use ?
Explorer _____ Netscape _____ Other _____
- How much time do you spend 'surfing the net' for biomechanics related issues?

- What are your favourite biomechanics bookmarks?

E-Mail

- Which mailing software (version) do you use ? _____
- Can you attach files? Yes No

- Can you read the following formats?
*.doc *.xls *.pdf *.ppt Other _____
- How often do you check your mailbox?
Daily Weekly Other _____
- What encoding methods does your mail use?
Mime Bin Hex Other _____
- Can you 'unencode' and 'decode' files? Yes No

ISBS Home Page

- When have you last visited the ISBS home page? _____
- Which information on the home page have you read? _____

- What resources do you use on a regular basis? _____

- What kind of information would you like to see on the home page? _____

- What would attract someone to visit our home page? _____

- Would you be willing to download the Newsletter in pdf format or
do you prefer the hard copy ?
- Would you be willing to help develop the home page further? Yes No

Comments

Please feel free to add any comment here:

Send to: Hans J. Gros, PhD
 Institut fuer Sportwissenschaft
 Allmandring 28
 Stuttgart, Germany
 FAX: +49 711 6857226
 E-mail: hans.gros@sport.uni-stuttgart.de

ISBS Board of Directors

The following people were elected to serve your interests on the ISBS Board of Directors. To those who will be stepping down from Office after the next elections, we thank you for your service and hope to still see you actively involved in the Society.

1996-1998

Gideon Ariel	USA
Barbara Gowitzke	Canada
Jackie Hudson	USA
Patria Hume	New Zealand
Ellen Kreighbaum	USA
Pekka Luhtanen	Finland
Stuart Miller	Wales
Miriam Satern	USA
Rene Therrien	Canada
Manfred Vieten	Germany
Jerry Wilkerson	USA

1997-1999

Rodney Barrett	Australia
Jürgen Krug	Germany
Wayne Marino	Canada
Bruce Mason	Australia
Spiros Prassas	USA
Ross Sanders	Australia
Henrik Sorensen	Canada
Dany Too	USA
Frantisek Vaverka	Czech Republic
David Waddell	Canada

Contact details for each Board member are listed on the ISBS home page.

Rod's Tips: Interesting Web Sites to Visit!

And now for a few more of Rod's Tips! Don't forget, those sites that prove useful to the membership will be linked directly to the ISBS home page. So let us know what is of relevance to you or suggest sites that we can link other members to.

Today's Tips:

- The official web site for the 2000 Olympic Games can be found at: <http://www.sydney.olympic.org/welcome.shtml>
- For information on biomechanics of swimming try the site: <http://www-rohan.sdsu.edu/dept/coachsci/swimming/index.html>

Amongst lots of other information, the site contains a bibliography on biomechanics of swimming; a section called *How Champions Do It* which is a compilation of underwater stroke sequences of world-champion or remarkable swimmers; listings of notable features of the stroke (includes graphics); and an interesting article entitled *Forces in Swimming* - a re-evaluation of current status from the Swimming Science Bulletin.

- The Exploratorium has a feature on Sports Science that can be found at:

<http://www.exploratorium.edu/sports/index.html>

On line features here include the science of ice hockey and the science of cycling as well as a number of on-line articles. Very basic science, but worth a quick look.

- An excellent site if you are interested in Gait Analysis is: <http://www.curtin.edu.au/curtin/dept/physio/pt/staff/kirtley/cga/>

Contains a good basic overview of issues relevant to gait analysis, case of the week, descriptions of interesting biomechanics experiments, and the obligatory links page.

- The Neuromuscular Research Center at Boston University has a web site that contains a basic introduction to recording and processing EMG. The URL is: <http://nmrc.bu.edu/>
- For information on running injuries including basic biomechanics of injury, how to avoid running injuries, advice on selecting running shoes, and some basic training tips, see the following site: <http://www.clark.net/pub/pribut/spgait.html>

Rod Barrett

Seen the ISBS Home Page Lately?

Have you visited the ISBS home page recently located under the URL:

<http://www.uni-stuttgart.de/External/isbs/>

New items include:

- A search tool to search for keywords and authors in the Proceedings of ISBS Symposia.
- A News update section for recent items of interest to members.
- New links to Deutsche Gesellschaft für Biomechanik while maintaining old links to

the Biomechanics World Wide, the home page of ISB, the American and European Societies of Biomechanics and the Sportscience web site.

Thanks are extended to Hans Gros and Manfred Vieten for constantly improving this site! Feedback and contributions from the membership are still wanted. So, please send your comments, criticism, suggestions and contributions to Hans or Manfred.

1998 ISBS Symposium: An Update of the Ongoing Activities!

From July 21 to July 25 the XVI ISBS Symposium will be held in Konstanz, Germany. For this event we have received more than 320 abstracts in the six categories of sports biomechanics. We have developed a procedure to ensure a high quality of the abstracts, also ensuring that the referees did not know the author's names or origins. In detail the procedure was as follows:

- After receiving the abstract (either by E-mail or on diskette), it was grammar-checked by a experienced native English speaker. The person who was hired for this work was not a professional in biomechanics. He works as an translator who is responsible for the translation of several scientific books into English.
- Thereafter, we removed all names and affiliations from the abstract and included an ID number for recognition.
- The abstracts were then sent (by E-mail) to a member of the Scientific Committee to be refereed. The referees did a tremendous job in a very short time. They did not just read and make a decision; constructive remarks were added to most of the abstracts. Some of the abstracts were even rewritten in part.
- The authors were then notified of the decision (accepted, accepted with changes, rejected).
- The final version of the abstracts will be set on the home page. The format of the files is the PDF format. PDF files guarantee the correct format of the abstract and a very high compression (see the article in this Newsletter: "What in the world is a PDF file?").

At the time of publication of this Newsletter complete statistics on the abstracts were not

available. However, these details will be published in the next edition.

Preparations are being made to accommodate more than 300 participants. Konstanz is an attractive holiday town with the peak tourist season being from May to October. Especially in July, hotels are fully booked. As a matter of course we had to reserve the hotel rooms way in advance. Most of the hotels require a definite booking by the beginning of May. Therefore, please make your reservation via our Internet form (available at <http://www.isbs98.uni-konstanz.de>). You will find prices, descriptions of the location, and even pictures of the hotels on our home page. In addition to the hotels, we have reserved a limited number of rooms in dorms and in the sports complex. Please note: the comfort of the dorms is not comparable with that which the hotels have to offer. In the dorms there are also regular students and students attending language school. Therefore, we cannot guarantee you a symposium atmosphere at the dorm. If you are the adventurous outdoor type you might consider bringing your own tent and staying for free on campus at the lake side. Washrooms are available at the nearby sports complex.

In terms of entertainment, recreation, and social events, arrangements have been made (visit our home page for details).

For those of you arriving by plane, you are advised to choose the Kloten Airport in Zurich, Switzerland, as it is the nearest international airport. We will provide a shuttle-bus from Zurich airport on July 20-21 and to the airport on July 26-27.

If you need assistance feel free to contact us:

Phone: + 49-7531-88-3565
FAX: +49-7531-88-4221
E-mail: ISBS98@uni-konstanz.de
Mail: University of Konstanz,
D-78457 Konstanz, Germany

ISBS98-Secretariat,
See you in Konstanz!!

Manfred Vieten

**ISBS99:
Perth, Western Australia
Great News for Those on Limited Budgets! →**

How's your planning coming along? For your interest we have enclosed about the symposium venue. For those of you wanting to see some of Australia we have an official Symposium travel agent - Clem Hammond of Harvey World Travel. Clem will be pleased to provide further information about travel and tours. Clem may be contacted directly at the following E-mail address:

guyjack@ozemail.com.au

For those who are worried about the cost of visiting the most isolated city in the world the good news is that it has never been cheaper. With the Aussie dollar floundering at around 0.66 US, international travellers will find that their currency goes a long way in Australia. Qantas, the official ISBS99 Symposium airline, has offered special discounts on internal flights for symposium delegates. Delegates will also qualify for 'lowest available fares' on international flights. Please take careful note of the 'Reference Code' for international bookings and the 'Association Profile Number' when booking domestic (within Australia) air travel:

Reference Code
(when booking international flights)
CIC*461/87

Association Profile Number
(when booking domestic flights)
1259662

Following is the offer made by QANTAS to ISBS99 Symposium delegates:

We are pleased to announce Qantas has been appointed official airline for the XVII International Symposium of Biomechanics in Sports.

Australian Delegates

As a special conference fare has been negotiated for delegates attending, we suggest you contact Qantas Association Sales to avail yourself of this offer.

A discount of up to 45% off the full economy airfare excluding taxes at the time of booking has been negotiated for this conference, subject to seat availability in group class. Please quote your Association Profile Number which is "1259662" and destination and date of the conference when making your reservation. Please note that the applicable discount is available for domestic travel within Australia and is subject to payment and ticketing conditions.

International Delegates

*Qantas offices in all parts of the world will be pleased to discuss with you or your travel agent any special travel requirements and itineraries, and will explain airfare structures for the most economical travel to suit your needs. Please quote the reference code - CIC*461/87*

Qantas is proud to be part of your conference, and know you will enjoy flying with us.

The Qantas Association Sales telephone number for Australian delegates is:

TOLL FREE: 1 800 684 880

International delegates can contact their local Qantas office for the best available fare of the day.

QANTAS →

And Now for an Update on the ISBS99 Social Arrangements!

The Symposium 'social sub-committee' is confident that your Symposium tour will be an unforgettable 'Aussie' experience. It will commence with a coach tour taking in the sights of the coastal beaches, Swan River, Perth City from Kings Park, and Fremantle. Then you will experience unique 'Aussie' entertainment at Tumbulgum Farm. We don't want to spoil the surprises but be assured that you have never had an experience like you'll have at Tumbulgum Farm.

The social committee will be organising day trips and other activities for partners and families and for those who wish to take some time off from the Symposium presentations.

So... start booking your trip "Down Under" now for an ISBS experience you will not forget!

Ross Sanders
ISBS99
Symposium Convenor

News: ISBS Board of Directors Meeting

The next ISBS Board of Directors Meeting will be held in conjunction with the XVI ISBS Symposium to be held in Konstanz, Germany. The tentative schedule for the Board Meetings is:

- Mon July 20, 4.00 - 6.00 pm:
Pre-Conference Board Meeting
- Fri July 24, 5.30 - 7.30 pm:
ISBS Annual General Meeting
- Sat July 26, 9.00 am:
Post-Conference Board Meeting

For further details of these meetings please contact Manfred Vieten on:

Manfred.Vieten@uni-konstanz.de

\$ Membership Fees \$

Are your membership fees up to date? If not, your vote in the elections will not count! See the membership form at the end of this Newsletter for payment details.

New ISBS Members

Due to the substantial increase in new members it is not possible to list the personal contact details of each member. However, welcome to ISBS!

John Baker, Australia
Konstantinos Boudolos, Greece
Sven Bruhn, Germany
Joseph Brunton, Republic of Ireland
Marleen Caldwell, USA
Jill Carson, USA
Ivan Cuk, Slovenia
Pedro Deprá, Brasil
Reiner Fritsch, Germany
Patricia Galliot, France
Claudio Giorgi, Italy
Markus Gruber, Germany
Marcio Guaratini, Brazil
Vassilia Hatzitaki, Greece
Michael Holthe, USA
Thomas Hoshizoki, Canada
Chenfu Huang, Taiwan
Thomas Jaitner, Germany
Stephen Kinzey, USA
B. Christina Kippenhan, USA
Young-hoo Kwon, USA
Brad Lawrence, USA
Christopher Luther, USA
Andrew Lyttle, Australia
Klaus Maier, Germany
Srecko Mavrek, Croatia
Stephen McIlwaine, Canada
Marco Medik, Netherlands
Hans-joachim Menzel, Brazil
Stuart Mills, UK
Naotoshi Minamitani, Japan
Bridget Munro, Australia
Martha Nichols-Ketchum, USA
Wolfgang Niessen, Austria
Junichi Okada, Japan
Salom Olivier, France
John Pagliano, USA
Lisa Patmor, USA
David Pinckney, USA
Gavin Pinniger, Australia
Alexander Podgayets, Russia
Michael Price, USA
Walter Rapp, Germany
Karen Roemer, Germany
Mark Sayers, Australia
Lothar Thorwesten, Germany
Sasaki Tsutomu, Japan
Eric Wang, USA
Wei Xie, Singapore
Toshimasa Yanai, New Zealand
Bing Yu, USA

What in the World is a PDF File?

A PDF file is a data file in the Adobe Acrobat format. It can contain text, graphic and numerous other binaries. You can create and save it onto your local hard disk, receive it as attachment to your E-mail or download it from a home page.

Should I learn how to use PDF files?

As with many other things in life you can live without it. But it will benefit you if you are able to deal with it. You will agree with this after reading the following lines.

In a society like ISBS it is essential to be able to communicate and exchange ideas and scientific papers quickly. Normal mail, in the form of surface mail or even air mail, is no longer an appropriate medium for communication. This can be nicely expressed as "snail mail". You can call your colleagues worldwide by phone if your budget is big enough. A comfortable, fast, and affordable way of communication is therefore via the Internet. The Internet is an anarchic data transport medium which can contain almost any information in any format. In the case of our society a format should contain certain features to help us in our work. The main features are:

1. Availability of software to read the files. The software to read PDF files is Adobe's Free Acrobat reader. As the name describes the software is free of cost and can be down loaded from the Internet, either from Adobe or from many other sites as <http://www.isbs98.uni-konstanz.de/Acrobat.htm>.

2. The software is available for almost all hardware types and for all operation systems.
3. Compact data format to save band width and storage. For example: the size of the PDF file of the ISBS98 second announcement compared to the original Page Maker file is about 1 : 15!
4. The creation of documents must be easy. PDF files are created from any Windows95 or WindowsNT based software. After installing the Adobe Acrobat Writer (this is not free software) a new printer is included in your operation system. By selecting this new printer a PDF file is created.
5. Documents must be available on and off-line. When you install Adobe's Free Acrobat reader you have a viewer with the possibility to print what you see and a plug-in for your Internet browser. Receiving a PDF file from the Internet automatically activates this plug-in.
6. The formation of text, graphics, graphs etc. must be conserved. If you get documents from the Internet into your browser the formation is dependent on your browser settings. For scientific texts this is not preferable. PDF files are not changed by the browser.
7. The abstracts and the full papers of the ISBS98 Symposium will be available on the Internet in PDF format.

The installation of the free Acrobat reader is simple. The only problem you may experience is in downloading the software (4-7 MB, depending on you system) via a slow Internet connection.

Manfred Vieten

From the Treasurer: Some statistics

In the last eight months the number of members of the Society has almost tripled. However, there is still a lot of work to do to make sure members actively participate in the Society's life. An interest in a society is also displayed in the payment morality. In our Society we have 232 members (2 Fellows, 3 Life Members, 175 Full Members, and 52 Student Members (see Table 1)), but just 110 members are in good standing. Most of the 122 did not pay their 1998 dues! For a detailed view of our membership situation see the table below. So, please, check your membership status now and fill in the renewal form at the end of this Newsletter if you have not paid for 1998!

Table 1: ISBS Membership Statistics

County	Number of Members	Full Members	Students	In Good Standing ⊕	Not in Good Standing ⊖
Argentina	1	1	0	0	1
Australia	15	11	4	8	7
Austria	1	1	0	1	0
Belgium	1	1	0	1	0
Brazil	7	7	0	3	4
Bulgaria	1	1	0	0	1
Canada	11	8	3	8	3
Chile	1	1	0	0	1
Croatia	1	1	0	1	0
Czech Rep.	1	1	0	1	0
Denmark	1	0	1	0	1
Finland	1	1	0	1	0
France	3	3	0	2	1
Germany	23	17	6	16	7
Greece	3	3	0	2	1
Hungary	2	2	0	1	1
Iceland	2	1	1	0	2
Iran	1	1	0	0	1
Italy	5	5	0	3	2
Japan	9	6	3	4	5
Mexico	1	1	0	0	1
Netherlands	2	0	2	1	1
New Zealand	2	2	0	2	0
Portugal	3	3	0	1	2
Puerto Rico	1	1	0	0	1
Rep. Ireland	1	1	0	1	0
Russia	1	0	1	1	0
Saudi Arabia	1	1	0	0	1
Singapore	1	1	0	1	0
Slovenia	4	3	1	4	0
Spain	2	2	0	1	1
Taiwan	3	3	0	1	2
UK	8	7	1	2	6
Ukraine	1	1	0	0	1
USA	111	82	29	43	68
Total	232	180	52	110	122

* includes 1 Life Member ** includes 2 Fellows and 2 Life Members

Please make sure you are a member in good standing! See the Membership Application form on the next page.

ISBS Membership Application Form

From the treasurer of ISBS

Dr. Manfred M. Vieten
 University of Konstanz
 FG Sportwissenschaft
 Universitaetsstrasse 10
 78464 Konstanz
 Germany



Tel: +49-7531-88-3565; Fax: +49-7531-88-3026; E-Mail: Manfred.Vieten@uni-konstanz.de
<http://www.uni-stuttgart.de/External/isbs/>

ISBS Membership Fees

Please complete and return this form to the treasurer by ordinary mail. For your convenience the return address is printed on the back of this sheet. The full ordinary membership fee is US\$ 20.— (DM 36.50) and the student membership fee is US\$ 10.— (DM 18.25). Please note that you are requested to pay either in US Dollars or in DM (German Marks). Please select your preferred method of payment on the following page.

Your membership data:

	Personal data:	Please complete or correct:
Title:		
First Name:		
Middle Name:		
Surname:		
E-mail:		
Tel.:		() () () (country code) (area code) (tel number)
Fax.:		() () () (country code) (area code) (fax number)
University/ Institution:		
Department:		
P.O. Box:		
Street:		
Number:		
Postal Code:		
City:		
Country:		
Membership Status		

According to our database you are a _____ and have paid membership fees for the year(s) _____. Please inform the treasurer if this is incorrect. Kindly note the changed modality of membership. Full ISBS membership no longer includes a subscription to the *Journal of Applied Biomechanics*. For the payment action see next page.



4
3
2



1
1



1
1