

International Society of Biomechanics in Sports Newsletter



TABLE OF CONTENTS

President's Message	2
Sport Biomechanics	2
Coaches Information Service	4
Vice Presidents' Reports	4
VP for Awards	4
VP for Public Relations	5
VP for Publications ISBS WWW site	5
VP for Publications	6
Treasurer	7
ISBS Election Procedures	8
Whom are you voting for ? - Resumes of Nominees	9
Board of Directors	9
Executive	13
New ISBS Members	17
ISBS 2001: An Update	18
Board of Directors and Executive	19
ISBS Ballot Form	20

President's Message: Ross Sanders

Sport Biomechanics: We need your best work - it's tough

The first issue of 'Sport Biomechanics', the journal of the ISBS, is expected to be in print prior to the San Francisco Conference. The members of the Executive Editorial Board have set strong guidelines for authors and reviewers to ensure both scientific quality and 'friendliness' for sports practitioners. We have a mix of interesting articles for the first edition. Thanks to the reviewers for their conscientious efforts. They have done an excellent job and have given sound advice to authors.

We need papers for the second edition and seek to maintain the high standards achieved for the first edition. The table below indicates clearly that articles will proceed to publication only after rigorous review. The rejection rate is high:

Accept:	5.6%
Accept with minor changes:	27.8%
Reject and Resubmit:	55.6%
Reject:	11.1%

If you have conducted research in a rigorous way and have findings that are useful for sport practitioners, please submit your work for publication in 'Sport Biomechanics'.

Author Guidelines for Papers Submitted to 'Sport Biomechanics'

Papers may be submitted for publication in any of the following sections of 'Sport Biomechanics': *Original Applied Research; Strength and Conditioning; Reviews; Teaching; New Methods and Theoretical Perspectives.*

Regardless of the section, the articles must be scientifically rigorous and will be peer reviewed by at least two reviewers with expertise in the topic. The review will be blind, that is, no

indication of the authors' names or affiliations will be sent to reviewers. Where appropriate, information to establish the validity of the methods, and the magnitudes of errors, should be provided (other than in review articles). There should be sufficient information of a technical nature to allow duplication of the study by others. The material should be fastidiously referenced in keeping with the requirements of other scientific journals.

Notwithstanding the above, authors should endeavour to write in a style that is 'reader friendly' and, in particular, 'coach friendly'. Achieving this, while maintaining scientific rigour, is obviously a major challenge for authors, reviewers and the editorial team. Authors are required to adhere to the following:

Title: The title should reflect the practical importance of the research as well as indicate its scientific basis. Thought should be given to capturing the interest of practitioners without detracting from the scientific nature and merit of the research.

Abstract: The abstract should be limited to 200 words and should conclude with clear statements regarding the practical implications of the research for practitioners or, in the case of articles for 'New Methods and Theoretical Perspectives', for sport biomechanists.

Introduction: The introduction should clearly elaborate the potential benefits of the research and its findings for sport practitioners (coaches and competitors). The purpose should be stated in a manner that highlights the practical benefits of the study. An outline of how particular variables are related to performance, in simple terms, could be included in the Introduction, if appropriate.

Method: The method should clearly establish the overall procedures and the subject population involved. The method should include all relevant technical information to clearly establish the scientific merit of the study. However, authors should present this material in as readable a manner as possible and provide guidance where

Material that is difficult, such as complex mathematical models, should be included as an Appendix and referred to in the Method section. Elaborate statistical procedures and validation procedures should also be included in the Appendix.

The Method section may also incorporate the following:

a. Simple definitions of technical terms (this may be included as a section of its own at the beginning of the methods section).

b. If appropriate, and if not already incorporated into the Introduction, a description of the rationale for selecting particular variables for analysis and their relationship to performance or injury should be included. This description should be in simple terms with an appropriate heading such as 'Variables Selected for Analysis and Their Relevance to Performance (or Injury)'.

Results: The Results section should be written in as friendly a manner as possible. However, no claims should be made without citing the relevant statistical results. Sport practitioners should not be prevented from grasping the results due to a lack of knowledge of statistical procedures and terminology. The statements should reflect both rigour and readability.

Discussion and Implications: This section should be separate from the Results section and should elaborate the implications of the results. It should be possible to read this section freely and without recourse to the statistical results or further statistical information and terminology. In fact, practitioners should be able to skip the results section and be able to comprehend the findings of the study, and their implications for sport performance and/or injury prevention, from this section alone. Achieving this will require skill from authors to restate findings in simple terms without appearing to repeat unnecessarily the information provided in the Results section. If appropriate, this section may include coaching practices, training drills and activities that are indicated by or arise from the research or review.

Conclusions: This section should summarise the main outcomes of the paper in terms of scientific findings and their practical implications.

To expedite the review process manuscripts will be handled in electronic form. Manuscripts should be submitted to the Editor by e-mail as an attachment, preferably as an MS Word (.doc) or alternatively as an RTF. Currently the Editor's e-mail address is: r.sanders@ed.ac.uk

Manuscripts should be written in English, double-spaced in Arial 12 Font with normal character spacing. The formatting style should be according to the guidelines in the Publication Manual of the American Psychological Association (APA), Fourth Edition, 1994 (examples of this format can be seen in any edition of Journal of Applied Biomechanics). Tables and figures should be appended to the document, each on a separate page, rather than within the document. Do not send figures in EPS format. If you have figures requiring large blocks of memory (larger than 1.4 MB) please send the document ZIPPED.

On the basis of the review, your paper will be categorised as one of the following:
Reject: Not suitable for publication in Sport Biomechanics.

Reject and resubmit: The paper is rejected unless the authors can make satisfactory responses to the reviewers' concerns. The paper will then be accepted only if all the concerns are addressed to the satisfaction of the reviewers.

Accept with minor changes: The authors must respond to the reviewers' concerns to the satisfaction of the editor.

Accept: The paper is accepted with only minor editing required at the discretion of the editor.

Editor:

Ross Sanders:

The University of Edinburgh, UK.

Executive Editorial Board:

Eugene Brown:

Michigan State University, U.S.A.

Bruce Elliott:

University of Western Australia, Australia

Joseph Hamill:

University of Massachusetts, U.S.A.

Herbert Hatze:

University of Vienna, Austria

Pekka Luhtanen:

Foundation for Research and Development in Olympic Sports, Finland

Julie Steele:

University of Wollongong, Australia

Maurice Yeadon:

University of Loughborough, U.K.

**Coaches Information Service:
Improve your profile**

The Coaches Information Service (CIS) is now well established at:

www.sportcoach-sci.com

The success of the site depends heavily on new, interesting, coach friendly, and useful material. If you have any information or ideas that can help sports practitioners then submit the material to

the relevant compiler editor. Author guidelines are on the site.

Please support the mission of the ISBS to disseminate sport science information. This is a great way to let the scientific and sporting community know about your work. Our best articles are getting over 100 'hits' per fortnight.

San Francisco

John Blackwell and his team seem to have things well in hand for the San Francisco conference and it is shaping up to be another highly successful and enjoyable conference. I look forward to seeing you there.

Ross Sanders

Vice Presidents' Reports

**VP for Awards &
Barbara Gowitzke**

As the time for the San Francisco symposium approaches, it is a good time to remind members that you or your students may be eligible to register for the competition for a New Investigator Award. This purpose of this award is to recognize new researchers and to encourage them to become productive members of the Society by expanding the knowledge base of sports biomechanics through study and dissemination of information. Please see the ISBS website for details on eligibility requirements, etc.

It is also a good time to remind members to make suggestions for possible candidates in three different areas: Fellow, Life Member, and Geoffrey Dyson Lecturer. A full description of these distinctions can also be found on the ISBS website as well as in the last issue of this newsletter. It was decided at the Hong Kong Symposium that all awards would be presented at the closing banquet rather than during the Annual General Meeting.

And finally, if members have some suggestions for the Awards Committee on our operation, or new ideas we might consider, please let us hear from you. We are always open to suggestions. The four members of our Committee at this time are:

Tony Bauer, tbauer@gale.lakeheadu.ca
Eugene Brown, ewbrown@pilot.msu.edu
Stuart Miller, s.miller@lmu.ac.uk
Barbara Gowitzke, gowitzke@hwc.org

As the Chair of this Committee, I am endeavouring to enlarge the Committee membership so that we have the advantage of additional personnel for making awards decisions. Currently, according to the By-Laws, two or more Board members are eligible to sit on this committee, in addition to the Secretary General, the Vice-Presidents for Conferences, and the Vice-President for Awards.

Barbara Gowitzke

VP for Public Relations ✎
Renato Rodano

After the successful congress of Hong Kong, where everybody had the opportunity to see the high quality of the annual symposium of ISBS, my activity as ISBS Vice President of Public Relations was concentrated on two main actions:

- ✦ to flank the organizers of the incoming Congresses
- ✦ to promote a coordinated action to publicize the Coaches' Information Service (CIS).

By considering the first item, good interactions have been established with John Blackwell chairman of ISBS 2001 and Kostas Giannikelis chairman of ISBS 2002 in order to support and promote relationships with potential Patrons of the two events.

As you know, the help of authorities, outstanding personalities and organizations plays an important role to favor the success of this kind of events. I warmly ask the ISBS members that are going to organize congresses, meetings or seminars related to sport biomechanics, also at local level, to contact me to obtain the patronage of ISBS or to utilize my position as link with the people of their interest. I will be very glad to give all my support.

The second action is aimed to publicizing CIS around the world. Laurie Malone, Mario Lamontagne, Vasilios Baltzopoulos, Joakin Acero, Youlian Hong and Bruce Mason accepted to be part of the PR committee and act at regional level. They were asked to identify organizations and people potentially interested to CIS, collect the addresses, send them an official letter of ISBS arranged by Ross Sanders and me and, finally, follow up the arising contacts. The areas of action of each member are USA, Canada, western Europe, South America, Asia and Australia - New Zealand respectively.

Unfortunately I was not able to identify or collect adhesions from eastern Europe and Africa. I hope that these newsletters could be the occasion to cover this gap.

A special thank to Hans Gros that, by his initiative, offered an help to operate in Germany to further support the activity of Vasilios Baltzopoulos. Please take Hans Gros as an

outstanding example and contact me or the PR Committee to operate in your country.

The reader of these newsletters do not forget that distribute "information" is a powerful tool to support ISBS and CIS. I can mention, as an example, the results obtained in Italy, where with the help of a young ISBS member, Alberto Lanzani, the National Olympic Committee, Sport Federations, Sport Organizations, Universities and magazines, especially electronic, were contacted. To date there are links to CIS on many Italian sport related web sites and the CIS address appeared in an article published on a top level national weekly magazine.

A secondary result of this action is represented by the availability of a data bank, based on the addresses collected around the world, that could be easily used in the future for the publicizing of new initiatives of ISBS.

Our addresses:

rodano@regolo.cbi.polimi.it (R. Rodano)
lmalone@saturn.vcu.edu (L. Malone)
V.Baltzopoulos@mmu.ac.uk (V. Baltzopoulos)
iacero@cali.cetcol.net.co (J. Acero)
youlianhong@cuhk.edu.hk (Y. Hong)
106452.250@compuserve.com (B. Mason)
mlamon@uottawa.ca (M. Lamontagne)

Renato Rodano

ISBS WWW Site

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



We make every effort to keep the WWW site informative and up to date. All members are urged to check the site and use the services offered. Most notably, the Resources section can be a valuable tool. Currently links and information about the following topics are offered:

- ◆ Data Smoothing
- ◆ ISBS Research Papers
- ◆ Who's Who
- ◆ Search ISBS Proceedings
- ◆ Academic Programs with emphasis on Sports Biomechanics
- ◆ Cyber Classroom - Teaching Biomechanics

- ◆ Student's Corner
- ◆ Research Cooperations

If you are willing to contribute to the available resources, e.g. by establishing a link to your 'Cyber classroom', please send a mail.

ISBS Literature Service

On the ISBS WWW site you find the Table of Contents of all ISBS Proceedings since 1987. Using the search tool is an efficient way to locate papers of interest.

Since 1999 ISBS has offered a 'Literature Service' free of charge to its members: Any member could fill out the <Paper Request Form> online and ask for photocopies. Non members have to pay a fee to cover the cost of handling and mailing. This service was heavily used. In several cases the requests amounted to photocopying hundreds of pages.


In the future the service free of charge will therefore be restricted to a maximum of five papers per member and year. Additional papers will have to be charged separately. The current rates are: 5 Euro (equivalent to 5 US\$) fee for shipping and handling plus 1 Euro (US\$) for each requested paper. Thus if you need 4 papers you have to pay a total of 9 Euro (US\$).

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, ISBS implemented this service. 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. The search tool browses the data base for the string you submit in the SEARCH field. Any matching data set is displayed.

Currently, there are more than 60 ISBS members listed. If you wish to be added to this data base, please go to

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

click to <Who's Who> and follow the link  < Submit your information for the WHO'S WHO in ISBS data base>. In the past month, several incomplete submissions were received. Whilst you do not

have to fill in all fields, there is little sense to just put in a name. Since the form is processed by an internet service provider (cwak), there is no way to track back those submissions. If your data does not appear in the list within one month, please try again or send a mail to: hans.gros@sport.uni-stuttgart.de

VP for Publications Hans Gros

Newsletter Production and Distribution Cost

The cost for printing and mailing of the Newsletter is quite high. Therefore I encourage ISBS members to print the NL from the ISBS home page. Please send me a short mail if you can do without the printed version sent via TNT. Thanks in advance !

The ISBS Newsletter is available

1. In HTML format. This format is convenient for 'on-line' reading, since all links are active and the Table of Contents allows for easy navigation,
2. In PDF format. This requires the Acrobat Reader which can be downloaded free of charge. The pdf file can be downloaded, stored and printed locally.
3. As Hard Copy. All ISBS members in good standing are entitled to receive the Newsletter in printed form. However, please consider to download the pdf version and print it locally in the future. You may try this procedure with the current Newsletter Vol. 18 #1. The advantages include:

- ◆ You have access to the NL about two to three weeks earlier.
- ◆ You may print the NL on a printer and the paper of your choice.
- ◆ ISBS saves the money for printing and mailing which helps to keep the membership fee low.
- ◆ Small Errata can be corrected after publication.

If you can do without the printed version of the Newsletter, please send a short mail to hans.gros@sport.uni-stuttgart.de

If you want to be notified of the availability of the Newsletter via e-mail, please indicate this in your mail. Of course you may change these options in the future.

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 the Newsletter can be submitted in any form (preferably electronic) 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 to the ISBS VP Publications: hans.gros@sport.uni-stuttgart.de.

NEXT DEADLINE: September 1, 2001

Advertising in the Newsletter

ISBS has now over 500 members throughout the world. Why not maximize exposure of your products? For companies wanting to advertise in this Newsletter please contact Hans Gros (Newsletter Editor). The Advertising rates are:

- ✦ Full page: \$100 per issue
- ✦ Half page: \$ 60 per issue
- ✦ Quarter page: \$ 35 per issue
- ✦ Back cover: \$150 per issue

This includes presence on the ISBS home page with a link to your companies site.

For multiple advertisements in an issue, additional advertisements in the same Newsletter will be reduced by 50%. All rates are in US\$. Maximum exposure at bargain rates.

Hans Gros

ISBS Membership Treasurer: Manfred Vieten

Keeping the ISBS membership database up to date is a time consuming task. Therefore, the Treasurer would like to remind you of the best way to deal with this issue:

There is a secure WWW site where you can check and update your membership data:

<https://www.uni-konstanz.de/FuF/SportWiss/ISBS/Member/###Name-code.htm>

where

- ✦ ### is your ISBS ID number
- ✦ Name is your last name
- ✦ Code is your personal code sent to you by the treasurer

Any change you make in the form provided will automatically update the membership database! Thus, you may use the form to check your data, make changes in your contact information or make payments!

If you forgot your access code, go to the ISBS site <http://www.uni-stuttgart.de/External/isbs/>

Membership →

click to

<Membership> and follow the link <Address Change>. You will receive your access code via e-mail.

Please do not send an e-mail to the Treasurer (unless you have problems with the above procedure), since he would have to make the change manually, which is 'slow and dirty'.

Thank you for using this ISBS service !

Manfred Vieten

ISBS Election Procedures Stuart Miller

Dear ISBS member,

The time has again come for you to vote on the officials who will run ISBS on your behalf for the next 2 years. Listed below are the names of those candidates who have accepted nomination. Names are listed underneath the posts for which they have been nominated. 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. Resumes of each candidate are published in this issue of the ISBS Newsletter under the heading 'Whom are you voting for?'. Please note that votes are to be sent to Hans Gros.

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

Stuart Miller

GENERAL INFORMATION

1. In accordance with the I.S.B.S. Constitution and By-Laws, officers are to be elected every year. This year, these include:
 - (up to) 11 Directors;
 - Vice President of Awards;
 - Vice President of Conferences and Meetings;
 - Treasurer;
 - Secretary-General.
2. Officers are elected by a simple majority. Thus, for each of the above positions, the person(s) receiving 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 (or group) is allowed. No votes on behalf of others will be accepted.
5. Ambiguous, blank and spoiled returns will be discarded.
6. Members may vote by e-mail or regular surface (air) mail.

VOTING INSTRUCTIONS

Please type the word „YES“ in the „Vote“ column on the row(s) of those people for whom you want to vote. Leave other rows blank. Once complete, please send this form to:

hans.gros@sport.uni-stuttgart.de

Type 'ISBS Election 2001' in the <Subject> line of your e-mail. Make sure that your full name (rather than some e-mail alias) appears in the body of your mail.

If you wish to use regular air mail, please print the completed voting form, place it in a plain envelope, and place that envelope into another envelope, with your name clearly written on the outside envelope. This allows us to check that you are a member in good standing, while retaining anonymity. You may also use the ballot form printed on the last page of this Newsletter.

The hard copy of the completed form should be sent to Hans Gros by 30th April:

Dr. Hans Gros
ISBS Vice President for Publications
Institut fuer Sportwissenschaft,
Allmandring 28, Universitaet Stuttgart,
70569 Stuttgart, Germany.

Whom are you voting for ?
ISBS Elections 2001
Resumes of Nominees

Board of Directors

John Chow, Ph.D.

Current Country of Residence: Hong Kong
John Chow received his B.S. in Physical Education from Springfield College and both of his master's and Ph.D. degrees in Exercise Science from the University of Iowa. He is currently an associate professor and the director of the Biomechanics Laboratory in the Department of Exercise and Sport Sciences, University of Florida (UF). He was with the University of Illinois at Urbana-Champaign before joining the UF.

John presented several papers at the last two ISBS Symposia and was a member of the scientific committee of the ISBS Symposium 2000. Over the years, John has made contributions to the field of biomechanics in cinematographic/videographic techniques, musculoskeletal modelling, and performance characteristics of selected tennis strokes and wheelchair sports. His recent publications appeared in journals such as *Clinical Biomechanics*, *Journal of Applied Biomechanics*, *Journal of Applied Physiology*, *Journal of Biomechanics*, *Journal of Sports Sciences*, and *Medicine and Science in Sports and Exercise*.

Patria Hume, Ph.D.

Current Country of Residence: New Zealand
Associate Professor Patria Hume is Head of Research at Auckland University of Technology, New Zealand. Patria has a Ph.D. in Biomechanics, a M.Sc. (Hons) and B.Sc. in Physiology and Psychology, and a postgraduate certificate in Epidemiology. Patria's research focuses on reducing sporting injuries and improving sport performance by investigating injury mechanisms and injury prevention methods. Patria is a Sport Science New Zealand Level III Accredited Biomechanist

and has provided applied biomechanics research and consultancy to a variety of national organisations and teams and is the head biomechanist for NZ Rowing, NZ Gymnastics, NZ Hockey and NZ Badminton. Patria has been on the ISBS Board of Directors for 1996-97 and 99-2001. Patria reviewed papers for the ISBS 2000 Conference Scientific Committee. Patria is also a member of the Australia and New Zealand Society of Biomechanics (including 1998 Conference Organising Committee Chair), ISB and the International Society for the Advancement of Kinanthropometry. Patria was a principal researcher for the IOC funded Sydney 2000 Olympics anthropometry project. Patria is committed to teaching students how to practically apply biomechanics in sport and has written a textbook *Biomechanical procedures for analysis in sport: Practical and theoretical considerations* to help achieve this.

Christina Kippenhan, Ph.D.

Current Country of Residence: Germany
Current Position: Assistant Professor, Department of Physical Education, Health & Sport, Bemidji State University, Bemidji, Minnesota, USA

Relevant Information: After gaining the "Staatsexamen" (Masters equivalent) in Mathematics and Sports Sciences from the Ruprecht-Karls-Universitaet Heidelberg, Germany, Christina completed a Ph.D. in Exercise Science (Sports Biomechanics) at The University of Iowa, Iowa-City, USA. Christina worked as an assistant at the Olympic Training Center in Heidelberg, for the Department of Sport and Sport Sciences at the Ruprecht-Karls-Universitaet Heidelberg, and the Sports Biomechanics Laboratory at The University of Iowa (under James G. Hay). In her current position at Bemidji State University,

Christina is the Director of the Sports Biomechanics Laboratory. Christina's research interests include aquatics (especially swimming), track and field, and the mechanical aspects of skill acquisition. She has published manuscripts in scientific and applied journals and has presented several papers at national seminars. Christina has been a member of the ISBS board of directors since 1999.

Duane Knudson, Ph.D.

Current Country of Residence: USA

Current Position: Associate Professor, Department of Physical Education and Exercise Science, California State University, Chico, Chico, CA 95929-0330

Relevant Information: Duane earned his Ph.D. in biomechanics from the University of Wisconsin Department of Physical Education with a distributed minor in Anatomy and Engineering. He held lecturer and assistant professor positions at Baylor University before coming to Chico State. Dr. Knudson is interested in applied research in sports and exercise. He has presented at three ISBS symposia and published over 40 peer reviewed articles in journals like the *Journal of Applied Biomechanics/IJSB*, *International Journal of Sports Medicine*, *Research Quarterly for Exercise in Sport*, *Journal of Sports Medicine and Physical Fitness*, *Journal of Strength and Conditioning Research*, and *Biology of Sport*. His extensive research on the biomechanics of tennis has earned him a position on the USTA Sport Science Committee. He also serves on the editorial board of the *Journal of Strength and Conditioning Research* and reviews for several journals including the *Journal of Biomechanics*, *Physical Therapy*, and *Medicine and Science in Sports and Exercise*. He is currently working on the second edition of his book *Qualitative Analysis of Human Movement*.

Juergen Krug, Ph.D.

Current Country of Residence: Germany

Current Position: Professor & Director of the Institute of Motor Control, Biomechanics and Training Science, Faculty of Sport Science,

University of Leipzig, Germany, D - 04109 Leipzig, Jahn Allee 59.

Relevant Information:

Study of physical education and mathematics
Doctor's degree and habilitation at the Sports University in Leipzig

Member of ISBS since 1994, holding the position of Director

Working in ISBS projects 1996/97 and 1997/98

Main research interest: Sports technique in gymnastics, diving and figure skating as well as interdisciplinary problems of biomechanics and motor control and learning

Kelly Lockwood, Ph.D.

Current Country of Residence: Canada

Dr. Kelly Lockwood is an Assistant Professor in the Faculty of Kinesiology & Health Studies at the University of Regina, Saskatchewan, Canada. Dr. Lockwood received her doctorate from the University of Alberta in 1997. Her research has taken an interdisciplinary approach to the evaluation of sport performance and the application of sport-specific training techniques. More specifically, within the fields of Biomechanics and Exercise Physiology, she concentrates on the development of on-ice sports including figure skating, ice hockey, and speed skating. Her work also extends beyond understanding the human factor of sport performance to include working with industry to assist in the engineering of equipment design.

Complementing her academic achievements, Dr. Lockwood is an active member and consultant for Skate Canada's Sport Science Committee. In addition, she provides ongoing consultation services to several provincial and regional sport governing bodies across Canada. Her myriad background in research and application has fostered the development of a unique perspective of the relationship between the theory and practical application and has made her a strong advocate of the link between science and practice.

Kelly Lockwood is currently a member of ISBS and has attended ISBS symposiums throughout her graduate career.

Wayne Marino, Ph.D.

Current Country of Residence: Canada
Wayne Marino is a charter member of ISBS and has attended fourteen annual meetings. He has been a member of the Board of Directors of ISBS since 1991 and has served as the chair of the ISBS Nominating Committee on 5 occasions. Three times, he has served on the Scientific Committee of ISBS Conferences. Wayne is a Professor in the Department of Kinesiology at the University of Windsor in Canada. Since completing his Ph.D. in 1975, Dr. Marino has specialized in applied sport biomechanics research and has presented and published over 60 refereed papers. Wayne Marino is recognized as a specialist in Skating and Ice Hockey research and is currently involved in both a consulting and research grant relationship with The Hockey Company.

Guillermo Noffal, Ph.D.

Current Country of Residence: USA
Current Position: Assistant Professor and Director of the Movement Analysis Laboratory, California State University, Fullerton, Division of Kinesiology and Health Promotion, Fullerton, California, USA
Relevant information: Guillermo received his BA and MA degrees in Physical Education with a minor in Computer Science from San Diego State University. He then completed a Ph.D. in biomechanics at The University of Western Australia. He was appointed an Assistant Professor at Cal State Fullerton in 1996 with a charge to build and develop a biomechanics lab. His research interests include identifying upper extremity loadings during tennis strokes and muscle function assessment using isokinetic dynamometry with an emphasis on injury prevention resulting from repeated eccentric loadings. Guillermo has authored/co-authored manuscripts in both scientific and applied journals (*Journal of Applied Biomechanics, Journal of Sports Sciences, Medicine and Science in Sports and Exercise, Australian Journal of Science and Medicine in Sport, Research Quarterly for Exercise and Sport, Australian Tennis Magazine and the USTA Sport Science for Tennis*). He has also presented over 20 papers at local, national and international conferences

including the ISBS as an invited speaker for the Applied Program in 1999. Guillermo would be honored to become actively involved with the society and be a part of its growth and its continued commitment to disseminate information to athletes and coaches.

Spiros Prassas, Ph.D.

Current Country of Residence: USA
Spiros Prassas received his Ph.D. in biomechanics from the University of Maryland in 1985. After two years at Johnson C. Smith University, he went to Colorado State University in 1987 as a "sport biomechanist" where he currently is. Being a former member of the Greek national gymnastic team and a national champion, Dr. Prassas has a special interest in gymnastics research. In addition to gymnastics, he has conducted/collaborated on research projects in other sports and on the effects of auditory rhythm on gait of stroke victims. Currently he is involved in collaborative research in gymnastics and in work attempting to identify performance characteristics of physical and sport activities throughout the life span. Dr. Prassas has been involved with the International Society of Sport Biomechanics where he has held and holds leadership positions and has worked to "bridge the gap" between researchers and practitioners. He is the Editor of the Gymnastics CIS web site. Dr. Prassas has published his work in a variety of outlets including the International Journal of Sport Biomechanics, the Journal of Human Movement Studies, the Journal of Gait and Posture, and the Proceedings of the International Society of Sport Biomechanics. He has presented his work internationally and he has been an invited speaker in various countries including Korea, Australia, and his native Greece.

Hermann Schwameder, Ph.D.

Current Country of Residence: Austria
Current Position: Assistant Professor at the Institute of Sport Science, University of Salzburg, Austria.
Lecturer in Biomechanics
M.Sc. in Sport Theory and Mathematics at the University of Innsbruck, Austria

Ph.D. studies in Innsbruck and Salzburg. Dissertation on 'Biomechanical Analysis of the V-Technique in Ski-jumping', finished 1994 at the University of Salzburg.

Visiting Professor at the HPL in Calgary 1998-1999.

Several publications in reviewed papers on technique and loading aspects in the area of alpine walking, ski-jumping and alpine skiing using kinematics, dynamics, EMG, inverse dynamics and knee modelling.

ISB 99 Calgary Award in the area of 'Locomotion Biomechanics'.

Member of ISBS since 1998.

As a member of the board I would emphasise the applications and enhancement of understanding biomechanical research.

Manfred Vieten, Ph.D.

Current Country of Residence: Germany

Manfred Vieten was born 1955 in Neuss (a city more than 2000 years old located close to Duesseldorf and Cologne). After completing high school, Manfred studied physics at the Siegen University in Germany. In 1979 he received a Diploma in experimental physics; thereafter doing a Ph.D thesis in theoretical high energy/particle physics. After receiving his Ph.D. in 1985 and completing a 1-year post-doctoral position, Manfred worked for the commercial sector for over 5 years.

In 1991 Manfred joined the Department of Physical Education at the University of Konstanz as permanent staff member. He currently lectures in Biomechanics to both undergraduate and postgraduate PE students and is involved in the co-ordination and maintenance of the Ph.D program. Manfred also teaches judo and general martial arts.

At a personal level, Manfred had been active in canoeing and table tennis during his school and high school years and competed at district level. During his university years he started Judo and competed for the Siegen University and on state level. He also coached Judo and physical fitness. Later on Manfred began a second martial art - the Korean art known as "Kung Jung Mu Sul" (KJMS). He currently holds two black belts (a 2nd degree black belt in Judo, and a 2nd degree black belt in KJMS)!

The focus of Manfred's research is in the field of movement analysis, including kinematics, mathematical modelling, simulation, and dynamics/inverse dynamics. His research has involved various sports such as running, jumping, trampolining, biking, martial arts and the like.

In terms of ISBS involvement, Manfred has been a member of ISBS since 1992 and on the Board of Directors since 1996 including being the treasurer for four years. He is also a member of ISB and of DPG (German Physics Society).

David B. Waddell, M.A.

Current Country of Residence: Canada

Contact address: 123 Woodview Crescent, Ancaster, Ontario, L9G 1E8, Canada.

Relevant information: David Waddell has a Master's degree in entomology and physiology. He is a sport consultant with special interest in badminton, a sport in which he has been involved in all aspects including research. Although not trained in biomechanics, he became a "practical" biomechanist by carrying out extensive research on badminton stroke production with his wife, Dr. Barbara Gowitzke. At the ISBS symposium in Hong Kong, David was an invited speaker and presented a major paper in the practical session as well as chairing the badminton session. His current interest is "Badminton for Children", a programme unique in the world that he developed based on biomechanical and physiological principles.

He has been a member of ISBS almost from its inception and a director for many years. He wrote the Constitution and By-Laws for the Society, and was given a Life Membership in 1997 for his contributions to the Society. He has chaired the By-Laws Committee for several years.

Bing Yu Ph.D.

Current Country of Residence: USA

Current position: Assistant professor, Director, Center for Human Movement Sciences, Division of Physical Therapy, Department of Allied Health Sciences, University of North Carolina at Chapel Hill, USA

Education: Beijing Institute of Physical Education, Beijing, China, B.S. 1982; Kansas State University, Manhattan, KS, M.S. 1988; The University of Iowa, Iowa City, IA Ph.D. 1993; Mayo Clinic, Rochester, MN Postdoctoral 1996

Professional experience: Instructor, Biomechanics, Beijing Institute of Physical Education 1982-1986; Research Assistant, Biomechanics, Kansas State University 1986-1988; Research Assistant, Biomechanics, The University of Iowa 1988-1993; Teaching Assistant, Biomechanics, The University of Iowa 1990-1992; Instructor, Bioengineering, Mayo Medical School 1995-1996; Assistant Professor, Biomechanics, The University of North Carolina at Chapel Hill 1996- Present.

ISBS activities: 1998-present, sponsor to ISBS scientific research project on disc throwing; 1999-present, member of ISBS Board of Directors; June 1997, XV ISBS Meeting, presentation; June, 1999, XVII ISBS Meeting, keynote presentation; June, 2000, XVIII ISBS Meeting, presentation.

Recent publications:

Newcomer, K., Laskowski, E.R., Yu, B., Larson, D.R., and An, K.N. (2000). Comparing trunk repositioning error in subjects with chronic low back pain and control subjects. *Spine*, 25(2): 245-250.

Colby, S., Francisco, A., Yu, B., Kirkendall, D., Finch, M., Garrett, W. (2000). Electromyographic and kinematic analysis of cutting maneuvers: Implications for anterior cruciate ligament injury. *American Journal of Sports Medicine*, 28(2): 234-240.

Yu, B., Brichta, P., Holly-Crichlow, N., Reeves, G.R., Zablony, C.M., and Nawoczenski, D.A. (2000). The effects of the lower extremity joint angular motions on the total body motion in sit-to-stand movement. *Clinical Biomechanics*, 15: 449-455.

Newcomer, K.L., Edward, R.L., Yu, B., Johnson, J.C., An, K.N. (2000). Differences in repositioning error among patients with low back pain compared with control subjects. *Spine*, 25(19): 2488-2493.

Whom are you voting for? Executive Positions

Vice President of Awards

Barbara Gowitzke, Ph.D.

Current Country of Residence: Canada
Current position: Retired from McMaster University, where I headed the Biomechanics Laboratory for 18 years.

Contact address: (Home) 123 Woodview Crescent, Ancaster, Ontario, L9G 1E8, Canada.

Relevant information:

- Publications: Two editions of a textbook, *Scientific Bases of Human Movement*, 1980, 1988. Williams & Wilkins Co.
- Several papers in refereed journals as well as conference proceedings.
- Editor and/or member of the ISBS Scientific Committee for several editions of the symposium proceedings
- Research interests: Biomechanical and neurophysiological principles applied to sport; i.e., badminton, tennis, gymnastics
- Special research emphasis on badminton
- Member of ISBS since 1984
- Member, Board of Directors of ISBS since 1985
- Attended every ISBS Symposium, since 1984 (except 1992)
- Made several presentations at ISBS Symposia over the years, including oral and practical sessions
- Current Vice-President of Awards (completing Gene Brown's term)
- Served as the first Chair of Awards Committee for six years, and member of the Committee to date
- Have also served as member of the Nominating Committee.

Stuart Miller, Ph.D.

Current Country of Residence: England
Current position: Senior Lecturer, Leeds Metropolitan University, Beckett Park, Leeds LS6 3QS.

Relevant information: Stuart has been a member of ISBS since 1992, and has served as the Society's Secretary-General for the last 4 years. Stuart has been a member of the ISBS Awards Committee and By-Laws Committee for 4 years. He has also served on several ISBS Scientific Committees. He is also the

editor of the basketball pages on the ISBS Coach's Information Service web site.

In addition to regularly presenting papers at ISBS symposia, he has published articles in national and international journals, and wrote a chapter for the current biomechanics guidelines of the British Association of Sport and Exercise Sciences.

He has a variety of current research interests, including the biomechanics of basketball shooting, tennis shoes and surfaces, hurdling, plyometrics and coaching effectiveness.

Vice President of Conferences and Meetings

Tony Bauer, Ph.D.

Current Country of Residence: Canada
Current position: School of Kinesiology, Lakehead University, Thunder Bay Ontario.
Academic Background: B.Sc. Physical Education, M.Sc., Ph.D., Biomechanics.

Teaching and Research: 25 years in the fields of Biomechanics of Rehabilitation and Training, Exercise Prescription, Lifestyle Management.
Personal vision: I predict that the globalization process and the development of electronic communications will enable ISBS to become the most recognized Sport Biomechanics conference in the world. I also believe that research must become available to the practitioner in an applied format and that this should become one of our primary objectives for future development.

Vice President of Conferences and Meetings: I have served as VP Conferences for the last 3 year term and as an ISBS Board member in previous years.

ISBS Membership: I have been an active member of ISBS since the beginning of the society and have been actively involved in the growth process. I feel that we are in a particularly active growth period due to the efforts of a number of very effective executive board members. I have played a support role during the last 4 years as VP Conferences and focused on:

1) Developing a Guideline to assist Chairs Organise the Conference.

2) Developing a competitive proposal process to evaluate potential conference sites.

3) Providing a source of support to assist Chairs during their preparation period leading up to the conference.

4) Planning Conference Sites at least 3 years in advance based on rotating geographical regions. We are currently working on 2003 with a tentative sites in Beijing and Greece for 2004. This will be a challenge for us but could open a huge door in terms of membership and exposure in Asia and exposure at the next Olympic site in Athens.

ISBS Refereeing: I have served with other executive members on the scientific committee for the purpose of the refereeing process.

Conference Chair: Organized ISBS in 1995 in Thunder Bay Ontario, Canada. and after this experience realized that we required a better support process for chairs and needed to standardize the organisational process.

Research: I have presented papers on a regular basis at ISBS over the last 20 years and will remain an active member in the future

CIS : Currently in the process of providing a CIS site on Explosive Power Training which will be up and running for ISBS 2001.

Proposed Plan:

1) Continue to set up conference sites for the next 3 years and proceed with the proposal process in place.

2) Expand and develop the Conference Guidelines to provide more for the organisation of the Applied Program and its link to CIS.

- 3) Provide a comprehensive list of Exhibitor Sources to assist Chairs attracting sponsorship and promotional displays.
- 4) Working in conjunction with the executive generally upgrade organisation aspects of the conference based on feedback from the chairs at the conclusion of each conference.

Youlian Hong, Ph.D.

Current Country of Residence: China
 Current position: Associate Professor and Head, Biomechanics Laboratory, Department of Sports Science and Physical Education, The Chinese University of Hong Kong, Shatin, NT, Hong Kong

Youlian received his first degree in Engineering Mechanics at Qing Hua University, Beijing, a second degree in Biomechanics at the Beijing University of Physical Education and finally his Ph.D. in Sports Science at the German Sports University Cologne (1991). After two years working with the Hong Kong Sports Institute as a Sports Biomechanist (1991-1993), he commenced working in his current position in 1993.

Youlian has been an ISB member since 1991. When he attended the ISBS1996 in Madeira he decided to join and dedicate himself to ISBS. In the 2000, he organized the annual ISBS symposium.

Youlian's research interests include computer simulation, sports performance, ergonomics, and pediatric and geriatric exercise. Recently his attention has been placed on exploring the characteristics of neuromuscular activity and

movement kinematics and kinetics in Tai Chi exercise. His most update full-length publications can be found in Gait and Posture, Ergonomics, British Journal of Sports Medicine, Journal of Human Movement Studies, Journal of Aging and Physical Activity, and Scandinavian Journal of Medicine & Science in Sports etc. He is also a regular reviewer of the Journal of Aging and Physical Activity. Youlian's taught courses include Biomechanics, Functional Anatomy, and Human Growth and Development for both undergraduate and postgraduate students. At the moment, Youlian leads a research team that includes Post Doctoral Fellows, Ph.D. and M.Phil. candidates.

Youlian is also very keen to provide professional community services. He is an At-Large Member of the Executive Committee, the International Society of Aging and Physical Activity, a Director of the Hong Kong Association of Sports Medicine and Sports Science, and a Director of the Hong Kong Ergonomics Society.

On being given the task of organising ISBS 2000, Youlian set three principles: high academic standards, an excellent and enjoyable social program, and the lowest possible expense for individual delegates. He achieved these aims and the experience obtained from the symposium in Madeira, Konstanz and Perth, and the full support from ISBS executives and members were among the factors of this success.

Treasurer

Giannis Giakas, Ph.D.

Current Country of Residence: England
 Giannis Giakas was born in Greece in 1971. He graduated from the Aristotle University of Thessaloniki (Sport Science) in 1993, and he completed his Ph.D. in Biomechanics at the Manchester Metropolitan University in 1998. His research work is on the data processing methods of movement analysis data, which has been published in various peer-refereed

journals such as Journal of Biomechanics, Gait and Posture, European Journal of Applied Physiology etc. In 1999 he was invited to present his work on data filtering (organised by Prof G Wood) in a satellite workshop of the ISBS and ISB in Perth. The last two years his collaborative research work has attracted more than £350,000 from major research bodies such as MRC, EPSRC etc. He is an acting referee for 8 peer-reviewed journals. He currently works in the medical school of the University

of Manchester (UK) as a postdoctoral research fellow in the area of stroke rehabilitation. He is involved in HTML development and editing (it will be required for this position) since 1995.

Alan Walmsley, Ph.D.

Current Country of Residence: New Zealand
Current Position: Director, Human Performance Centre, University of Otago, Dunedin, New Zealand

Relevant Information: Alan is the Director of the Human Performance Centre (HPC) which is the sport science and ergonomics research and consulting arm of the School of Physical

Education at the University of Otago in Dunedin. Alan has worked with a number of sports at national level including swimming, rugby, and cycling. Alan has a wide range of sport research interests because he is involved with most of the projects run by the HPC. Recent projects have included the biomechanics of forestry work and the demands of adventure racing. Because the HPC operates the only swimming flume in the Southern Hemisphere, Alan is heavily involved with the sport science research carried out in that facility.

Secretary-General

John Blackwell, Ph.D.

Current Country of Residence: USA
Current Position: Associate Professor, Chair, Exercise and Sport Science, University of San Francisco - MG-A106, 2130 Fulton Avenue, San Francisco, California, 94117-1080, USA
John received his Ph.D. in Exercise Science from the University of Iowa in 1991. He has taught at the University of Illinois, University of Texas at El Paso and currently is the Chair of

the Exercise and Sport Science Department at the University of San Francisco. Journals he has published in include the Journal of Biomechanics, International Journal of Sports Medicine, Applied Ergonomics, and International Sports Journal. John is the host of the XIX ISBS Conference, as well as the National Symposium on Teaching Biomechanics in Sports, to be held in San Francisco this June, 2001.

New ISBS Members

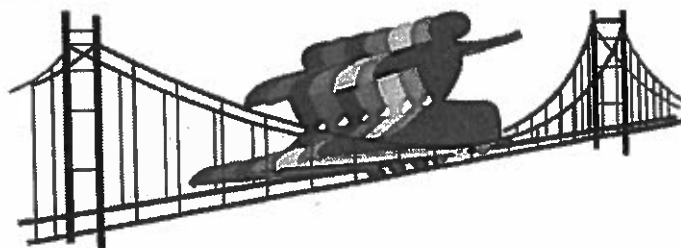
Due to the substantial increase in new members it is not possible to list the personal contact details of each member. However, welcome to ISBS!

Rochelle	Nicholls	Australia	William	Skelly	USA
Monique	Butcher	USA	Kanta	Tachibana	Japan
Youngsoo	Lee	USA	Paul	Robinson	UK
Lori	Griffin	USA	Michael	Feltner	USA
Marco	Cardinale	Italy	Robyn	Burgess	USA
Guillermo	Laich	Spain	Peter	Vint	USA
Tanya	Riedhammer	USA	Katarina	Zuber	USA
Eunjeong	Lee	S. Korea	Jeni	McNeal	USA
Wolfgang	Potthast	Germany	David	Sandler	USA
Raul	Arellano	Spain	Michael	Hunt	Canada
Philippe	Dedieu	France	Josef	Pfister	USA
John	Mercer	USA	Rafael	Escamilla	USA
James	Peluso	USA	Wangdo	Kim	Singapore
Raoul	Reiser	USA	Scott	McLean	USA
Kathy	Ludwig	USA	Ji Seon	Ryu	America
Athanassios	Bissas	UK	Megan	Moreau	Canada
Eadric	Bressel	USA	Keizo	Takahashi	Japan
Anand	Shetty	USA	Kenneth	Dinnen	USA
Leticia	Brito	Brazil	Derek	Kivi	Canada
Don	Hoover	USA	Cortney	Popowitz	USA
David	Black	USA	Michael	Koh	Australia
Mathew	Kuhn	USA	Marc	Portus	Australia
Suzi	Edwards	Australia	Rizal	Mohd.	Malaysia
Glenn	Fleisig	USA		Razman	
Ihor	Zanevskyy	Ukraine	Tzyy-Yuang	Shiang	Taiwan
Steven	Dowlan	Australia	Gareth	Irwin	UK
			Michiyoshi	Ae	Japan
			Richard	Jones	UK
			Stephanie	Spomer	Japan
			Deborah	King	USA
			Michael	Llewellyn	UK



BIOMECHANICS SYMPOSIA 2001

June 20-26
University of San Francisco



ISBS 2001, San Francisco: Latest Update Biomechanics Symposia 2001 John Blackwell, Ph.D

The University of San Francisco, California
invites you to

Biomechanics Symposia 2001
<http://www.usfca.edu/ess/sym2001/>

As of February 23rd, we have:

**215 submitted presentations for ISBS
2001**

**20 submitted presentations for the Fifth
National Symposium on Teaching
Biomechanics in Sports**

**10 plenary presentations
rooms available in all housing categories
space available in all June 27 fun trips
Conference Host**

12 companies to exhibit their products

FUN EVENTS!

For those of you who have submitted a paper,
please be patient while reviews are performed
and compiled. You will be notified as soon as
possible. Eventually, when you receive word
that your paper is accepted, you will be asked

to create a Microsoft® PowerPoint®
presentation and e-mail it as an attachment to
sym2001@usfca.edu. You should also bring
your disk and a set of overhead transparencies
in case of emergency.

The weather can be hot to chilly, and it's best
to plan on wearing layers of clothing that can
be taken off or put on given the situation.
When you are close to the ocean, it could be
20°F colder than it is in the heart of the city.

While holding a high-quality conference, we are
also planning to have some fun. Come
prepared to take part in some activities to get
you moving! There will also be a best
Hawaiian shirt contest at the closing
ceremonies. Bring your best shirt, and we'll
see you in San Francisco!

John Blackwell, Conference Host
Trudy Mary, Conference Secretariat
Jennifer Scott, Head Administrative Assistant

Please check the conference home page for
further and up to date information:
<http://www.usfca.edu/ess/sym2001/>

Send your e-mails to:
sym2001@usfca.edu

Board of Directors

2000-2002

Joao Abrantes, Portugal
jabrantes@fmh.utl.pt
John Blackwell, USA
Blackwell@usfca.edu
Ellen Kreighbaum, USA
ellenk@montana.edu
Pekka Luhtanen, Finland
pluhta@kihu.jyu.fi
Laurie Malone, USA
lamalone@saturn.vcu.edu
McBride, Margret, Australia
p.mcbride@mackillop.acu.edu.au
Aki Salo, England
A.Salo@bath.ac.uk
Henrik Sørensen, Denmark
h.sorensen@mai.ku.dk
Julie Steele, Australia
j.steele@uow.edu.au

1999-2001

Rodney Barrett, Australia
r.barrett@gu.edu.au
Jürgen Krug, Germany
krug@rz.uni-leipzig.de
Wayne Marino, Canada
wmarino@delta.uwindsor.ca
Bruce Mason, Australia
bruce.mason@ausport.telememo.au
Spiros Prassas, USA
prassas@lamar.colostate.edu
Bing Yu, USA
byu@med.unc.edu
Christina Kippenhan, USA
ckippenhan@bemidjistate.edu
Patria Hume, New Zealand
p.hume@auckland.ac.nz
Kostas Gianikellis, Spain
kgiannik@cc.unex.es
Vasilios Baltzopoulos, England
v.baltzopoulos@mmu.ac.uk
David Waddell, Canada
gowitzke@hwcen.org

Executive

President: Ross H. Sanders. r.sanders@ed.ac.uk
President Elect: Eugene Brown ewbrown@pilot.msu.edu
Vice President Awards: Barbara Gowitzke gowitzke@hwcen.org
Vice President Conferences: Tony Bauer tbauer@gale.lakeheadu.ca
Vice President Publications: Hans Gros hans.gros@sport.uni-stuttgart.de
Vice President Public Relations: Renato Rodano rodano@regolo.cbi.polimi.it
Vice President Projects and Research: Richard Smith R.Smith@cchs.usyd.edu.au
Secretary-General: Stuart Miller S.Miller@lmu.ac.uk
Treasurer: Manfred Vieten manfred.vieten@uni-konstanz.de

ISBS ELECTIONS 2001 – BALLOT FORM**BOARD OF DIRECTORS (vote for no more than 11 people)**

Name	Country of residence	Vote
Chow, John	United States	
Hume, Patria	New Zealand	
Kippenhan, Christina	United States	
Knudson, Duane	United States	
Krug, Juergen	Germany	
Lockwood, Kelly	Canada	
Marino, Wayne	Canada	
Noffal, Guillermo	United States	
Prassas, Spiros	United States	
Schwameder, Hermann	Austria	
Vieten, Manfred	Germany	
Waddell, David	Canada	
Yu, Bing	United States	

EXECUTIVE (vote for 1 person for each office)**VICE PRESIDENT OF AWARDS (Vote for 1 person)**

Name	Country of residence	Vote
Gowitzke, Barbara	Canada	
Miller, Stuart	England	

VICE PRESIDENT OF CONFERENCES AND MEETINGS (Vote for 1 person)

Name	Country of residence	Vote
Bauer, Tony	Canada	
Hong, Youlian	Hong Kong	

TREASURER (Vote for 1 person)

Name	Country of residence	Vote
Giakas, Giannis	England	
Walmsley, Alan	New Zealand	

SECRETARY-GENERAL (Vote for 1 person)

Name	Country of residence	Vote
Blackwell, John	United States	

Please read and observe the General Information and Voting Instructions in this Newsletter...
 Information about the candidates can be found in the Resumes of Nominees (pp. 9-16)...