

***International Society of Biomechanics in Sports  
Newsletter***



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## President's Message: Renato Rodano

The XIV Symposium in Funchal - Madeira (Portugal) was an important success for the International Society of Biomechanics in Sports. Certainly, it was the occasion to confirm that every year a large number of people move away from many countries to exchange their scientific and practical experience in sport biomechanics. The members of the organizing committee, chaired by Joao Abrantes, are to be congratulated for the admirable work required by a Symposium of these dimensions and quality. Such a success is the result of team work in which the Technical University of Lisbon, the Madeira University, the Madeira Regional Secretary of Education and the Science and Technology Centre of Madeira, played a key role. The high quality of the keynote lectures together with the contribution of all the participants, make me proud of being a member of a Society that is growing each year.

And what to say about the top quality of the social program surrounded by the beautiful landscapes and weather of Madeira? Nothing more than *fantastic!*

We look forward the XV Symposium in Denton, Texas, USA, being organized by Jerry Wilkerson and her colleague Colleen Ferguson at the Texas Woman's University. We encourage ISBS members, biomechanists, coaches and students to attend the event, having also the opportunity to visit the "north star of Texas", as Denton is defined by its community.

Together with the scientific sessions, the XIV Symposium offered to officers, directors and members several occasions to discuss formally and informally about problems related to the actual state and the future perspectives of the Society. It was nice to note that everyone felt a personal involvement in the Society and in doing duties required by everyone's position as stated in the constitution. A concrete example may be found in their reports filed in the "Officer's Corner" of these newsletters.

To me, the feeling that arose in Funchal, is a solid and stimulating incentive to serve ISBS at my best during the next year, trusting on the experience of the people who preceded and who will follow me in this position. I would like to personally thank all the Past Presidents

and the elected President, Hans Gros, for their contribution to the growth and the development of the Society.

The experience arisen during the first year of my mandate confirmed the validity of some guidelines to reach the objectives of our Constitution, that can be roughly summarized in three keywords: "Membership", "Communication" and "Cooperation".

### *Membership*

The strength of the society is in its members! Their contribution should not be constrained to present a scientific lecture at a symposium or to fill a position. They are welcome also if they want to join the Officers in any common effort. Please feel free to contact them or myself, and we will try to utilize at best your competencies. There are many actions that a member can perform to help ISBS: to establish connections with others societies with similar goals, to submit articles or notes to be published in the newsletters, to involve the largest number of young members that, with their new ideas, make an important contribution of innovation. For this reason young members are taken in particular account by ISBS and their involvement has to be encouraged and supported.

### *Communications*

Newsletters, conferences, meetings and internet facilities are good examples to achieve better communication. I would like to thank Julie Steele for the enthusiastic work she is performing in order to ensure regular newsletters of good quality, but we must remember that she can basically coordinate the material she receives. Then I take the occasion to spur all the readers in helping her job. I would like also to thank Cindy Tant who developed a Web site in the internet for ISBS. We now have a forum open 24 hours a day - 365 days a year to propose and exchange ideas and information on applied biomechanics in sports. Of course the page must be reinforced and, once again, each contribution is welcome.

### *Cooperation*

In a scientific world, where several societies are active in collecting researchers interested in a wide outline of topics, sometimes it happens that similar arguments are of common interest.

Following the idea that cooperation may lead to aimed to keep in contact with the International Society of Biomechanics (ISB). Thanks to the efforts made by the presidents and by the officers of both the societies and to the organizing committee, the elected president of ISB, Professor Dr. Günter Rau, attended the Symposium in Funchal. It was an important occasion to better understand and explain the aims and the characteristics of each society and to perfect the process of cooperation on the basis of mutual integrity and uniqueness of both societies. We are confident to continue this action in the future.

mutual advantages, ISBS undertook an action Before concluding, I feel that ISBS is in a good standing to face the next years, but I would like to underline that its life is also dependent on some economical factors and that the members are the primary source to face them. Then I take the occasion to amplify to the usual call of our secretary and treasurer: "please do not forget to pay your fees in time because, we can't operate on good intentions alone".

*Renato Rodano*

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## Vice Presidents' Reports

### VP Awards: Eugene Brown

*Awards Committee: Aniko Barabás, Barbara Gowitzke, Cynthia Tant, and Eugene Brown.*

### Call for Nominations for the 1997 Geoffrey Dyson Award

The Geoffrey Dyson Award is the most prestigious award of ISBS because it is a recognition of an individual who, through his/her professional career, embodied and carried out the mission (or purpose) of ISBS. Members of ISBS are encouraged to nominate individuals who embody the character of Geoffrey Dyson in advancing our mission.

Who was Geoffrey Dyson? According to John Disley, one of Dyson's favorite pupils, "He devoted his life to making coaching a science and to exposing the charlatan whose only effective advice was "Do it again, but harder". Below is a brief outline of a few of Geoffrey Dyson's achievements.

#### *Geoffrey Dyson (1915-81):*

- Lecturer, Loughborough College (1938-39 and 1945-47)
- Commanded Army School of Physical Training, East Africa (1942-44) and Central Mediterranean (1944-45)
- Chief National Coach to the Amateur Athletic Association, England (1947-61)
- Wrote the text "Mechanics of Athletics", 1st published in 1962 (and subsequently translated into many languages)

- National Director, Royal Canadian Legion's Sports Training Plan (1963-68)
- Director of Physical Education, Winchester College (1968-74)
- Visiting Professor, Faculty of Physical Education, University of Alberta (1975)
- Coach to the British Olympic Teams (1952, 1956, 1960)
- Conducted track and field courses in 14 countries
- Keynote speaker at many colleges and universities throughout the world.
- Addressed many international groups and societies

Before submitting a nomination, the person should be contacted to determine their willingness to serve as the recipient. A nominee must submit an electronic copy of their Curriculum Vitae (CV) to Eugene Brown, Chair of the Awards Committee, for review by the entire Committee. If chosen, the nominee must deliver the Geoffrey Dyson Lecture at the 1997 ISBS Symposium in Denton, Texas (see details of the Symposium later in this Newsletter). Note that travel to Texas, room and board of the recipient are covered by ISBS.

Please submit your nominations by **October 31, 1996** to:

Eugene Brown  
ISBS VP Awards  
Physical Education and 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  
Email: ebrown@pilot.msu.edu

**Past Geoffrey Dyson Award  
Recipients**

Past recipients of the Geoffrey Dyson Award have included:

Year	Symposium & Recipient
1987	Athens, Greece: Prof. Gerhardt Hochmuth
1988	Bozeman, MT, U.S.A.: Dr. Marlene Adrian
1989	Melbourne, Australia: Dr. Bruce Elliott
1990	Not given
1991	Ames, Iowa, U.S.A.: Dr. Elizabeth Roberts
1992	Milano, Italy: Prof. Vladimir Zatsiorsky
1993	Amherst, MA, U.S.A.: Dr. Doris I. Miller
1994	Siofok, Hungary: Prof. Gert-Peter Brüggemann
1995	Thunder Bay, Canada: Dr. Patrick J. Bishop
1996	Funchal, Madeira: Dr. David A. Winter

**New Investigator Award**

At the ISBS Board meetings, held in association with the 1996 Symposium conducted in Madeira, Portugal, a set of documents for the New Investigator Award (NIA) were approved. These documents were prepared by the Awards Committee and consisted of a description of the award, an abstract evaluation form, and a presentation evaluation form. These evaluation forms, which can be found on the ISBS home page, were used by the Awards Committee in selecting the 1996 recipient of the NIA. The recipient of the NIA for 1996 was Laurie A. Malone, University of Alberta, Edmonton, Canada. Her presentation was entitled "The Effect of Wrist Restraints on Wheeling Biomechanics". Congratulations Laurie! Further information related to the NIA is described elsewhere in this Newsletter.

*Eugene Brown*

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**VP Research & Projects:  
Larry Noble**

*Research Committee: Hans Gros, Bill Morrison, Julie Steele, and Spiros Prassas.*

**Summary of 1994 WGRP**

Instrumentation videotapes were sent to researchers from eight (8) different countries of which there were 15 investigators. The countries included China, Korea, USA, Canada, Italy, Slovenia, New Zealand, and Germany. A series of nine, 20-30 minute, tapes were produced to isolate on the tape 6-8 competitors in each event (one tape for each event). Seven conference presentations were made at the 1995 ISBS symposium in Thunder Bay. Hopefully some of these will go to publication in the proceedings. Additionally, two conference presentations were made at the 1st Australasian Biomechanics Conference, February 1996, and one conference presentation was made to the Australasian Symposium on Paediatric Medicine and Health, November 1995. Two presentations in the Victoria University of Technology, Faculty of Human Development Research Conference were made and both have been accepted for publication, October 1995. Finally, at least two presentations at the 1996 ISBS Conference in Madeira resulted from this project. To this point, the ISBS have been identified as a supporter of the research in all of the presentations and publications.

While this project was generally successful, an area of greatest concern occurred with the translation from PAL to NTSC format. It was anticipated that this could yield acceptable results. However, after many people were consulted and involved in the attempt to make this translation, we discovered that the translation could not be done to a level suitable for scientific analysis. Our difficulties, and those of a similar nature involving other colleagues in the biomechanics community, facilitated considerable discussion on the issue of PAL-NTSC transfer on the BIOMCH-L listserver on the internet during the Fall of 1995. The bottom line is that an acceptable frame-by-frame transfer cannot be made because of the 10 field.s<sup>-1</sup> differential inherent in the two formats. In addition to the physical outputs already described I would consider this another positive outcome of the project. The

support for the international prospective was good and I, as well as many others, thank you for the contribution. This is a most promising manner for ISBS to use their funds, if it is at all possible.

My personal thanks to the research committee and the ISBS Board of Directors for allocating funds and supporting the project and to Bill Morrison for conceiving the project and for doing most of the work in reproducing and delivering the tapes.

#### Proposal for the 1996 Gymnastics Research Project

We are planning a second research project that is similar in concept to the previous one. The proposal for this project is listed below and is being presented to the ISBS Board of Directors for action. The cost of reproducing and distributing the project materials will be supported by the Institut fuer Angewandte Trainingwissenschaft. An announcement of this project and complete details are given below.

#### Solicitation For Participation In 1996 ISBS Research Project

You are invited to participate in the 1996 ISBS research project which involves the analysis of instrumentation videographic and dynamographic recordings of selected parallel bar and horizontal bar events during the 1994 World Gymnastics Team Championships held in Dortmund, Germany. The project is coordinated by Larry Noble, Vice President for Research and Projects, and Juergen Krug. Other members of the research committee are Spiros Prassas, Hans Gros, and Bill Morrison. An overview of the project, including application procedures, is provided below:

##### *Introduction*

Under the sponsorship of Deutscher Sportbund, Institut fuer Angewandte Trainingwissenschaft and the gymnastic apparatus manufacturer, Spieth, a research team coordinated by Juergen Krug and consisting of Klaus Knoll, Falk Hidebrand, Volker Drenk, Rolf Wagner and Andreas Bronst, has completed instrumentation 3-D videographic recordings (SVHS PAL format) of selected horizontal bar and uneven bar performances during the World Gymnastics Teams Championships in

Dortmund 1994, Germany. Synchronized recordings of forces and torques exerted by the gymnast on the bar were also taken. The instrumentation system provided immediate information for the following initial evaluations by the original research team:

- Flight elements of dismounts including preparatory elements, such as giant swings.
- Computer graphs with important parameters, such as maximum force and height of the dismount.

As a second, follow-up phase of the project, we would like to make it possible for the data from this extensive effort to be used by interested researchers around the world to conduct research studying a series of research questions. Specifically, videotapes and an IBM-compatible 3.5" diskette containing associated force and torque data (calibrated and calculated in relation to the chain tension and the tilt of the uneven bars) and documentation will be provided to researchers submitting an acceptable proposal. Tapes will be made available free of charge to ISBS members submitting an acceptable proposal. Those receiving the tapes will be expected to present the results of their study at future ISBS symposia and/or the 1997 FIG Symposium in Berlin, Germany, which will take place immediately after the World Championships in rhythmic gymnastics, 21-22 October 1997.

##### *Practical Implications of Results for Coaches, Teachers and Athletes*

The gymnastic technique of the giant swing - one basic movement pattern in gymnastics - has been substantially improved during recent years. One feature of modernization is the more effective use of the elastic characteristics of the horizontal and uneven bars in the execution of this skill. Therefore, the following aspects of investigation are of special interest:

- We assume the differing anatomic conditions of the body's front and back side cause different solutions for forward and backward giant swings. Biomechanical analysis can provide the basis for deductions relating to the learning and refinement of this motor skill. Additionally, objective criteria for the classification of difficulty are possible.
- Different body masses cause different conditions for the use of spring energy of

the bar. Advantages and disadvantages for lighter versus heavier athletes can be deduced. Simultaneously, reference points for technique changes for growing athletes are possible.

- Initial mathematical models on bar and uneven bar gymnastics (e.g. KNAUF 1985; AUSPURG 1990; ARAMPATZIS 1995) to estimate forces, torques, energy. Loads on athletes can be calculated and further technique developments can be predicted. The monitored courses of force and moment of inertia allow a validation of different models.
- The investigations provide information for optimizing properties of the horizontal and uneven bars. To accomplish this, differentiated analyses of lighter and heavier athletes are especially useful.

#### *Format and Content of Proposals*

Organizers of the 1997 FIG Symposium in Berlin, Germany, have identified the following four categories for research presentations:

1. Comparison of the movement and force/torque patterns in performance of forward and backward giant swings on the horizontal bar,
2. Comparison of the movement patterns in performance of forward and backward giant swings on the uneven bars,
3. Comparison of the movement and force/torque patterns for heavier and lighter females/male gymnasts, and
4. Validation of multi-segmental models for athletic movements with elastic support using the force/torque data.

Research proposals related to these topics with a commitment to present results at the 1997 FIG Symposium are strongly encouraged. However, all proposals with scientific merit will be considered. The research proposals should be limited to two single-spaced pages and include the following components: (a) introduction and rationale, (b) purpose, (c) methods and procedures, and (d) practical and scientific significance.

The deadline for proposals is October 31, 1996. Notification of results of the review and delivery of the tapes and diskettes will be completed as soon as possible after the proposals are received.

Please direct inquiries regarding the data (videotapes and diskette contents) to:

Prof. Dr. Juergen Krug  
Institut fuer Angewandte  
Trainingwissenschaft e. V.  
Postfach 100841  
04008 Leipzig, Germany  
Phone: + 49 (341) 4945-144  
Fax: + 49 (341) 4945-400  
Email: [krug@rz.uni-leipzig.de](mailto:krug@rz.uni-leipzig.de)

Proposals should be submitted to:

Larry Noble  
ISBS VP for Research and Projects  
Department of Kinesiology  
8 Aheam Natatorium  
Kansas State University  
Manhattan KS 66506  
Phone: + 1 (913) 532-6979  
Fax: + 1 (913) 532-6486  
Email: [lnoble@ksu.ksu.edu](mailto:lnoble@ksu.ksu.edu)

These instructions can be also found on the ISBS home page:

(<http://www.nautilia.uwf.edu/~isbs/research.htm>).

Alternatively, the proposal can be downloaded from the following WWW site:

<http://www.ksu.edu/~lnoble/>

We look forward to receiving your proposals!

Larry Noble

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#### **VP Public Relations: Bill Morrison**

Due to an overseas study program, which I am presently completing, in Canada I was unable to attend the ISBS '96 Symposium. Hopefully the Symposium was valuable as always and traditionally enjoyable. In the area of public relations, for 1995-96 I was able to present information of our society in China, Australia, United States and Canada. The fact that we are applied and interested in practitioner orientated research seems to be of great interest to many professionals. Many of the presentations were in conferences as well as to undergraduate and graduate level classes and forums. It was most valuable meeting up with

colleagues such as Lu Deming, Larry Noble, John Cooper, Doris Miller, Doug Hayes, Pat Bishop and many others along the travels. ISBS also extended an invitation for us to develop an honorary President Position to a member of the International Olympic Committee (IOC) Executive. Hopefully we will be successful. Presently there are discussions taking place for financial support to assist in our Research and Development programs. These areas also look fruitful. I'll keep you posted.

Congratulations to all!

Bill Morrison

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### VP Publications: Julie Steele

Over the past year communication amongst ISBS members via the Newsletter has become overwhelming silent! But after an extended hibernation the Newsletter has reemerged, revitalized and awaiting your contributions to ensure it remains a major form of contact among ISBS members. The quality of any Newsletter is dependent upon contributions from you the membership. So please... if you have any items you would like to contribute put "pen to paper" or "fingers to the keyboard" NOW! Anything that may be of interest to ISBS members will be gladly accepted including:

- reports from relevant conferences/seminars/meetings
- short articles
- thesis abstracts
- laboratory features and research opportunities
- book reviews
- evaluation of software or multimedia aids for research, teaching and/or coaching
- biomechanics teaching programs/opportunities for student/staff exchanges
- upcoming conferences and meetings
- positions available

Material can be submitted in any form but please supply your email and/or FAX address with any report so that further information can be obtained from you if required. Two Newsletters will be published each year, one in

October (Fall/"Down Under" Spring Edition) and one in May (Spring/"Down Under" Fall Edition). Deadlines for the receipt of material will therefore be September 1 and April 1 each year. But why wait? Start sending YOUR contributions for the next ISBS Newsletter now to:

Julie R Steele  
VP Publications ISBS  
Department of Biomedical Science  
University of Wollongong  
Northfields Ave  
Wollongong NSW 2522  
AUSTRALIA

FAX: +61 (42) 214 096  
Email: j.steele@uow.edu.au

NEXT DEADLINE: April 1 1997

Apologies to those who would have liked to have submitted a report to this Newsletter but were not contacted and/or were not aware of the new deadlines! However, in the interests of getting the Newsletter circulating again, people who were difficult to contact (due to bouncing email or FAX messages) were abandoned! When sending correspondence please make sure your contact addresses are working (especially those email addresses!) so report details can be confirmed for use in the Newsletter!

### ISBS Publications

Proceedings of the XIII International Symposium on Biomechanics in Sports, held at Lakehead University, Thunder Bay, Ontario, Canada, 1995, can now be purchased.

Price: \$CDN 70 plus postage  
(\$5 CDN; \$10 OS)

From: Lakehead University Bookstore  
955 Oliver Road  
Thunder Bay, Ontario Canada  
P7B 5E1

See Order Form at the end of this Newsletter.

Julie Steele

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## ISBS Executive Council Directory

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:

Renato Rodano  
Centro Di Bionegneria (Politecnico  
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### President Elect:

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### Vice President Awards:

Eugene Brown  
Physical Education and Exercise Science  
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### Vice President Conferences:

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FAX: +36-1-1566 337  
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### Vice President Publications:

Julie Steele  
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### Vice President Research & Projects:

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8 Ahearn Natatorium  
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### Secretary General:

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Email: ctant@namrl.navy.mil

### Treasurer:

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Department of Exercise and Sport Science  
Colorado State University  
Fort Collins CO 80523 USA  
Phone: +1-970-4915999  
FAX: +1-970-4910445  
Email: prassas@lamar.colostate.edu

## ISBS Profiles: Get to know your Executive!

In an attempt to get to know who is representing you, brief profiles of different members of the ISBS Executive Council and Board of Directors will be included in the next few Newsletters. This issue includes profiles on the President, Renato Rodano; President Elect, Hans Gros; and VP Research & Projects, Larry Noble.

### President: Renato Rodano

Renato Rodano was born in Milano, Italy, 1951. After completing qualifications as an Engineer in Bioengineering at the Politecnico di Milano, Renato worked as an Assistant Professor in the Department of Electronics and the Department of Bioengineering at the Politecnico di Milano. He is currently a Researcher at the same institute, coordinating a course on Rehabilitation Biomechanics. Renato has also taught courses in "Biomechanics of Sport" at the School of Sports Medicine, Brescia, and "Biomechanics of Human Locomotion" at the School of Podology, Milano, Italy.

Renato has combined his interests in sport with a strong engineering foundation to develop a unique research program at the Politecnico di Milano and at the Centro di Bioingegneria (Politecnico di Milano - Pro Juventute Foundation). He has been involved in the development and application of devices and methodologies for non invasive analysis of human locomotion; analysis of EMG signals by means of pattern recognition procedures; analysis of motor coordination in different sport activities; analysis of biomechanical interaction of sports equipment; and development of protocols for the evaluation of functional loss and bilateral asymmetries. His productivity in research is reflected with over 120 papers published in international and Italian journals, books and proceedings.

As a member of ISBS since 1984, Renato has served as a Director for many years and acted as VP Conferences for 4 years. Renato also hosted the 10th International Symposium of ISBS, in Milano, Italy, in 1992. His enthusiasm for the society and respect by the members was reflected in his election as President of the Society this year. Apart from his extensive involvement with ISBS, Renato is also an active member of the Associazione Italiana di Ingegneria Medica e Biologica (AIIMB), the European Society of

Biomechanics (ESB), and the International Society of Biomechanics (ISB).

Renato has been happily married to Anita, a Physical Education teacher, since 1977. Combining marriage and work together they wrote a book on the "Biomechanics of rugby scrum"! To prove he is not just a theorist, Renato has a PB for the marathon of 2h 24' 03", was 2nd in the 10,000 m at the Junior Italian Championships and continues to enjoy long distance running.

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### President Elect: Hans Gros

Born in 1954, Hans developed his interests in sport, firstly as a gymnast and later in decathlon, competing on provincial level in Germany and for the Track and Field team of the University of Alberta. His sporting interests have more recently turned to "less demanding" pursuits of skiing, white water kayaking and climbing!

Hans' academic training crossed both disciplines and continents. He obtained a Sports Diploma from the University of Mainz, Germany and a MSc thesis on a mathematical model of downhill skiing and a Ph.D. thesis on biomechanical analysis of the pole vault, both from the University of Alberta, Edmonton, Canada. Hans is currently working at the Institute of Sports Science, University of Stuttgart, Germany, teaching Biomechanics as well as applied courses in Track and Field and Alpine Skiing.

Hans has been extensively involved in field research, particularly during World Championships and Olympics in Gymnastics and Track and Field (Edmonton, 1978; Helsinki, 1983; Athens, 1986; Rome, 1987; Seoul, 1988; Stuttgart, 1991 and 1993). Emphasis during this research has been on kinematic analyses of elite level performers and providing rapid feedback of biomechanical analyses to coaches and athletes. Other

research interests have included development of a system to supply biofeedback on performance relevant parameters to archers; research on gymnastics equipment such as landing mats, development of parallel bar with modified characteristics using FE methodology and various projects for athletes of the Olympic Training Center in Stuttgart.

As a founding member of ISBS, Hans has been extensively involved with the organization, serving on the Board of Directors, as VP Publications, and numerous committees including Research and Nominations. Hans is also a member of the International Society of Biomechanics (ISB) and German Association of Sports Science (DVS). In 1996 Hans was elected President Elect of ISBS.

Personally, Hans has been happily married to Petra since 1985. They have one daughter, Daniela (born 1990) who is eagerly awaiting the arrival of her new baby brother/sister!!

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### Vice President for Research & Projects: Larry Noble

As a member of ISBS since 1984, Larry has been working as the Vice President for Research and Projects from 1992 until 1996. In this role he has been instrumental in developing the research program supported by ISBS that was described in his report earlier in this Newsletter. Previous to this Larry was also Chair of the Softball and Baseball group (1984-86) and has been regularly a member of the ISBS Board of Directors.

Larry is currently working as a Professor in the Department of Kinesiology at Kansas State University, Manhattan, USA. His main research interests are upon biomechanical factors related to the design of striking implements, such as softball and baseball bats and tennis racquets. More specifically, Larry's research has focused on vibrational and inertial characteristics of striking implements affecting performance and preference.

Larry's professional interests have predominantly focused on bridging the gap between research theory and practice, particularly in sport. This interest was the primary reason Larry became active in ISBS.

Toward this end, he has been extensively involved in consulting activities with industry to improve softball and baseball bats, with industry to analyze work tasks and workstations to improve effectiveness and efficiency and to prevent injury, and as an expert witness in litigation related to his areas of expertise.

To complement his research, Larry's sporting interests include hunting, fishing, and golf. His interest in golf arose 6 years ago when the vestiges of orthopedic injuries from engaging in more strenuous sports (basketball) took their toll!

Larry's personal views on sports biomechanics are very passionate: "Sports biomechanics research is, by its very nature, applied. Therefore, it is more incumbent on sports biomechanics researchers to justify their research on the basis of its value to practitioners. This is why I became active in ISBS, the only international organization dedicated to bridging the gap between research and practice. I think that we need to develop new activities, or improve old activities to try to improve our effectiveness in this primary objective. One suggestion is to require researchers submitting abstracts for presentation to submit an additional nontechnical summary of the study, pointing out the significance of the study to practitioners (participants, coaches, trainers, equipment manufacturers, etc.). These nontechnical summaries could be compiled and published in a separate booklet and distributed widely to professional associations and editors of professional newsletters and journals. I am interested in what other members think about this suggestion." (Larry Noble).

What are your views???

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### News: 1998 ISBS Symposium

The 1998 ISBS Symposium is to be held in Konstanz, Germany! Keep watching this space for further details in the next Newsletter.

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**From the Treasurer:  
Spiros Prassas**

As you know, I am no longer the person to whom you send (directly) your membership dues--that person is the Secretary General, Cynthia Tant. I am, however, the one who is keeping the Society's finances and deposit your check (if you pay by check/bank note, etc.) to the Society's bank account. It would be much appreciated, easier and "hassle" free, if ALL of you make your checks payable to ISBS, NOT to any of the Society's Officers. The Society's finances are looking okay, thanks to members in the past who spent less than what was contributed. There are indications, however, that the financial future might not be as bright:

the Society's seemingly comfortable cushion could be easily and rapidly depleted, if we do not increase our current income (that is "paying" membership) level. Let's each of us pay his/her membership and, in addition, let's each member recruit a few extra ones!

*Spiros Prassas*

***Please pay your ISBS membership for 1996 now if you have not already done so!***

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**ISBS Board of Directors**

The following people were elected to serve your interests on the ISBS Board of Directors:

**1995-1997**

Joao Abrantes	Portugal
John Osterello	USA
Ross Sanders	Australia
Lela June Stoner	USA
Frantisek Vaverka	Czech Republic
David Waddell	Canada

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

**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

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**ISBS WWW Site**

Have you visited the ISBS home page yet? If not, the URL is:

<http://nautilus.uwf.edu/~isbs/>

Information which can be found on the home page includes:

- About ISBS: -General Information  
-Membership and how to join  
-Officers
- Minutes of previous meetings (including Minutes of the 1996 ISBS Annual General Meeting)

- The Constitution
- Conferences
- Research Proposals
- The Newsletter
- WWW links and other societies
- Biomechanics World Wide
- International Society of Biomechanics
- American Society of Biomechanics

So now you can keep in touch with what your Society has been up to on a regular basis! Thanks are extended to Cindy Tant for setting up this site!

## ISBS Elections: It's election time again.....

### Call for Nominations of Officers and Directors

In April 1997 the following offices of the Executive Council stand for election:

#### 1. SECRETARY GENERAL

*Current Officer:* Cynthia Tant

The Secretary General shall be custodian of the seal of the Society as well as official documents and records and roster. The Secretary General shall be responsible for recording the minutes of the meetings of the Executive Council, and Board of Directors, as well as those of the Annual General Meeting. The Secretary General shall distribute notices of all meetings and report on nominations and election results as prescribed, and shall perform all duties incident to the Society's main office and such others as from time to time the President, Executive Council and Board of Directors may determine.

#### 2. TREASURER

*Current Officer:* Spiros Prassas

The Treasurer shall be the chief financial officer, and shall maintain appropriate bank accounts and financial records of the Society. The Treasurer shall prepare a fiscal year-end financial statement duly audited, to be submitted to the Annual General Meeting. The Treasurer shall prepare a budget for the forthcoming year for approval by the Board of Directors.

#### 3. VICE PRESIDENT OF AWARDS

*Current Officer:* Eugene Brown

The Vice President of Awards shall function as Chairperson of the Awards committee which shall have responsibility for the selection of candidates for election of Fellows, Life Members, the Geoffrey Dyson Lecturer and other special awards as approved by the Society.

#### 4. VICE PRESIDENT OF CONFERENCES & MEETINGS

*Current Officer:* Aniko Barabás

The Vice President of Conferences and Meetings shall be responsible for planning,

coordination and implementation of conferences, clinics, tutorials, workshops and meetings. The Vice President of Conferences and Meetings shall have the overall responsibility for the Annual Symposium, and shall function as Chairperson of the Symposium Committee.

#### 5. DIRECTORS

Furthermore, a number of Directors, who together with the Officers form the Board of Directors, shall be elected. Current directors have been listed previously in this Newsletter.

The nominating committee solicits nominations for the above specified positions.

All members in good standing may vote and stand for election. Officers may be re-elected.

Please relate your nominations to:

Hans J. Gros

Institut für Sportwissenschaft

Allmandring 28

70569 Stuttgart Germany

Phone: +49-711-6853177

Fax: +49-711-6853165

e-mail: [ispgros@servus.rus.uni-stuttgart.de](mailto:ispgros@servus.rus.uni-stuttgart.de)

Please indicate name, affiliation, address, Fax, and e-mail of your nominees (if available). The committee in conjunction with the Secretary General shall establish eligibility of the nominees. The slate will be presented to the Secretary General in January 1997. The Secretary General will circulate a ballot in April. Some information about the nominees will be published in the next Newsletter. The membership can then vote prior to the Symposium in Denton, Texas. In order to maintain this schedule it is imperative that the committee receive the nominations by December 1 1996, possibly earlier.

Please see the constitution of ISBS on our WWW-site for further details of the Officer's duties. If you have any questions regarding the election process please do not hesitate to contact me.

Hans Gros

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## 1996 ISBS Symposium - A Participant's Perspective

The XIVth International Symposium of Biomechanics in Sports was held from 25-29 June, 1996 in Funchal, Madeira - a superb setting for the main event in the ISBS calendar.

After what can only be described as an "interesting" approach and landing on the world's shortest runway, I thought it was certain that things would improve rapidly. A worse assumption I've never made as our taxi driver proceeded to attempt to overtake every vehicle on the road, even when approaching a blind corner, retune the radio and make a telephone call **ALL AT THE SAME TIME**. Not content with that, he also decided that we should drive the wrong way up the road to the hotel (apparently they all do that though). I hope he didn't expect a tip, because he wasn't going to get one.

Delegates were welcomed at an opening ceremony co-hosted by the ISBS President and Symposium Chair, along with a variety of local dignitaries. Also in attendance was the President-Elect of the International Society of Biomechanics, Professor Günter Rau, whose address included the proposal of increasing cooperation between the two societies.

The Geoffrey Dyson Memorial Lecture - the Society's most prestigious award - has previously been presented by the likes of Doris Miller and Gert-Peter Brüggemann. This year, the honour went to David Winter, whose work over the past 20 years should put him on anyone's list of worthy recipients, and his lecture on total body kinetics was enthusiastically received. The opening day was completed with a welcome at the Town Hall of Funchal, complete with entertainment, the best description of which is probably "unusual"!

Each of the next four days began with two keynote lectures, with a further two on three of those. These included excellent presentations by Peter Brüggemann of Germany, Jesus Dapena and Joe Hamill (both from USA), and others from a range of speakers from a range of continents. Delegates could view poster presentations during breaks between sessions, an invitation strengthened by serving coffee and biscuits in the same room - eminently sensible! An excellent lunch for all delegates was provided in the hotel.

An interesting tour of a Madeira wine making company was included on the second evening, whilst the following afternoon saw a trip to Porto Moniz on the north-west corner of the island. On the way to Porto Moniz, I was interested to hear that a member of our party, himself a Madeira native, had actually never travelled the narrow cliff-side road (which was barely wide enough for a car, never mind a 50-seater coach) during the hours of darkness. Unfortunately, he was the driver. A hastily conducted straw poll found unanimously in favour of leaving before it got dark.

The banquet on the final evening was held outdoors in the Magnolia Gardens, just a few minutes walk from the hotel, and featured the same group (or at least the same tune) as had entertained us at Porto Moniz. The setting was excellent, the food was of a similar standard, and everyone went home happy.

The general organization of the event was excellent and set a standard for the future. Attendance was approximately 200, many of whom were first-time delegates. If anything, the number of keynote lectures (12) was slightly too large - 8 would have meant that no parallel sessions were necessary, and thus all oral communications would have been accessible. Many sports were covered by the 58 oral and 76 poster communications, including basketball, soccer, aquatics and track and field athletics. Focusing on a proportion of posters each day was a good idea, and helped to maintain concentration for longer. However, delegates tended to circulate around all posters which had been erected. Congratulations must go to Laurie Malone (Canada) who won the New Investigator Award for her presentation. We hope to see her at many more ISBS symposiums.

This was, by general consensus, amongst the best ISBS conferences to be staged, for which thanks must go to Joao Abrantes and his team. Apart from the recommendations that fewer keynote presentations be included in future symposia, and that the legitimacy of certain presentations/presenters should be established prior to the event, this symposium should be held up as a model for future organisers. I particularly liked the idea of a photographer

taking snaps of all speakers, which were made available for sale shortly afterwards. Sports biomechanists can certainly gain substantially from this event. Roll on Denton '97!

Stuart Miller

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### News: ISBS Board of Directors Meeting

The next ISBS Board of Directors Meeting will be held in conjunction with the XV ISBS Symposium to be held in Texas. Look for further details in the next Newsletter.

### 1997 ISBS Symposium

The XV International Symposium of Biomechanics in Sports is to be jointly hosted by the Department of Kinesiology, the College of Health Sciences and the Department of Continuing Education at Texas Woman's University, Denton, Texas, USA. The Symposium will be held June 21 to June 25, 1997 and will provide a forum for researchers, teachers, coaches, and practitioners in sports biomechanics. The 1st Announcement for the Symposium is attached at the end of this Newsletter. Manuscript and abstract details, registration and accommodation packages, and social and cultural program details will be released with the 2nd Announcement.

Immediately following the ISBS Symposium, the Fourth National Symposium on Teaching Biomechanics will be held. The Symposium will be held on the same campus with the same contact people. The dates for the

Symposium will be June 25 to June 29, 1997. The 1st Announcement for this Symposium will be available early October from the contact address below.

For more information contact:

ISBS Conference  
Texas Woman's University  
Office of Continuing Education  
PO Box 425649  
Denton, TX 76204-5649  
FAX: +1 (817) 898-3408  
E-mail: F\_WILKERSON@VENUS.TWU.EDU  
S\_FERGUSON@VENUS.TWU.EDU

We look forward to seeing you in Denton, Texas!

\*\*\*\*\*

### ISBS New Investigator Award

Have you completed your Master's or Doctoral degree in the past 2 years? Would you like to present this work at the 1997 ISBS Symposium with a chance to win recognition for your efforts and have your registration fee reimbursed? Why not start preparing your paper now for submission to the ISBS New Investigator Award (NIA)?

The NIA was first awarded in Athens, Greece as part of the 5th International Symposium of ISBS. Since its inception, it has been contested on an annual basis as part of the annual Symposium.

**Purpose:** The purpose of the NIA is to recognize young 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.

**Eligibility:** All members of ISBS, who have completed their terminal degree (master's or doctoral) within the past two years, are eligible for consideration. Candidates must be the first author of the abstract submitted and accepted for presentation at the annual Symposium of ISBS. They must also present their paper at this Symposium.

**Process:** The following is an ordered sequence of events in the process of identifying candidates and selecting the recipient of the NIA.

1. Information on the award and requirements for qualification are included in the Announcement and Call for Papers for the annual ISBS Symposium.
2. Researchers, who qualify for the award, must inform the Chairperson of the Symposium that they are interested in participating in the competition for the NIA when they submit their abstract for consideration.
3. Abstracts, which are accepted for presentation are provided to the Vice President of Awards for distribution to a NIA Committee consisting of the Vice President of Awards (Chair), Vice President of Conferences and Meetings, Secretary General, and two Directors appointed by the Chair. If any of these individuals are not in attendance or are unable to serve on the NIA Committee, replacement(s) must be appointed by the President or designee of the President.
4. An Abstract must be submitted in order for an eligible member of ISBS to be a candidate for the award. As part of the assessment process, an Abstract Evaluation Form is used by all members of the NIA Committee to judge the merits of each abstract.
5. The Chairperson of the Symposium schedules the presentations by the NIA

candidates early in the calendar of events to provide sufficient time for the NIA Committee to evaluate the abstracts and the presentations.

6. Members of the NIA Committee should attend all presentations of the candidates and complete a Presentation Evaluation Form on each candidate. If a conflict of interest exists, a member of the NIA Committee shall be excused from participation in the evaluation of a candidate.
7. After all presentations of the NIA candidates have been given, the NIA Committee is convened by its Chair to determine the recipient. The abstract and presentation evaluation forms are used as a basis for determining the winner. This meeting takes place prior to the time designated for the announcement of the NIA recipient.
8. A plaque, which has been purchased by the host of the Symposium, is engraved with the name of the recipient and presented by the Chair of the NIA Committee. The recipient is also reimbursed the prepaid Symposium registration fee.

Further details of the NIA can be found on the ISBS home page.

## Call for Nominations for Fellows & Life Members

The Awards Committee is seeking nominations for Fellows and Life Members.

### *Fellow*

This award is reserved for individuals who have made outstanding contributions in biomechanics related to sports over a period of years. Elected by the Executive Council, a Fellow is exempt payment of annual dues and registration fees for symposia, conferences and seminars of the Society while having all privileges of membership.

### *Life Member*

A special membership category reserved for members who have made outstanding

contributions to the Society. Elected by the Executive Council, a Life Member has all the privileges of membership but does not pay annual dues.

Please submit nominations (no set deadline) to:

Eugene Brown  
 ISBS VP Awards  
 Physical Education and 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  
 Email: [cbrown@pilot.msu.edu](mailto:cbrown@pilot.msu.edu)

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## ISBS Membership Application Form

Membership in ISBS shall be open to any and all persons regardless of geographic origin, who demonstrate a desire to study sport from a biomechanical viewpoint. These persons must be workers in biomechanics and/or sports (coaches, trainers, teachers) or they must demonstrate a strong interest in the area of biomechanics in sports.

### **How to Join**

ISBS membership for 1996 can now be renewed by paying the current dues. Because of an increase in rates for the Journal of Applied Biomechanics (JAB), a one year professional membership (January 1-December 31, 1996) will be \$59.00.

**Professional Membership:** Subscription to JAB is a requirement of membership; if you receive JAB through another association, (please provide documentation) dues will remain \$20.00.

**Student Membership:** Subscription to JAB is not a requirement. Student members may receive a special subscription rate by writing to : Human Kinetics Publisher, Circulation Department, Box 50776, Champaign, IL 61825-5076.

Payment **MUST BE** in US funds. If you are outside the USA, please use a check written on a bank in the USA, an international postal money order, or international traveler's check.

Please complete the application below and mail to:

Dr. Cynthia Tant  
 Department of Health, Leisure and Sport  
 University of West Florida  
 11000 University Pkwy  
 Penscola FL 32514 USA  
 Phone: +1-904-474 2599  
 FAX: +1-904-474 3342  
 Email: ctant@uwf.cc.uwf.edu

.....

Name: \_\_\_\_\_

Degree: \_\_\_\_\_ Title: \_\_\_\_\_

Address:

Institution: \_\_\_\_\_

Department: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_

State/Province: \_\_\_\_\_ Zip: \_\_\_\_\_

Country: \_\_\_\_\_ Phone: \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

Professional (includes JAB subscription) »»»»»»»»»»»»»»»» \$59.00/year \_\_\_\_\_

Professional (receiving JAB, confirmation)»»»»»»»»»»»»»» \$20.00/year \_\_\_\_\_

Student (dues only, no JAB required)»»»»»»»»»»»»»» \$10.00/year \_\_\_\_\_

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ISBS 1995 PROCEEDINGS

ORDER FORM

CONTENTS

The Proceedings contain approximately 100 4 page edited transcripts from presentations at the 1995 Conference sponsored by Lakehead University Kinesiology in Thunder Bay, Ontario, Canada. The papers include a cross section of current pure and applied research being conducted by Biomechanics researchers throughout North America, Canada, Europe and Australia.

PROCEEDINGS  
XIII INTERNATIONAL SYMPOSIUM  
ON BIOMECHANICS IN SPORTS



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1st Announcement



I.S.B.S.

XV  
INTERNATIONAL  
SYMPOSIUM  
of  
BIOMECHANICS IN SPORTS

Denton, Texas  
U.S.A.

JUNE 21-24, 1997

TEXAS WOMAN'S UNIVERSITY

Department of Kinesiology  
College of Health Sciences  
and  
Continuing Education



ISBS Conference  
Texas Woman's University  
Office of Continuing Education  
PO Box 425649  
Denton, TX 76204-5649

Texas Woman's University  
Office of Continuing Education  
P. O. Box 425649  
Denton, Texas 76204-5649

Correspondence to follow in the 2nd  
Announcement will include:

- Registration and Accommodation Package
- Manuscript and Abstract Guidelines
- Social and Cultural Program Outline

**IMPORTANT:** To receive the registration package and details in the 2nd Announcement, please complete the attached card and return.

All correspondence should be directed to:

ISBS Conference  
Texas Woman's University  
Office of Continuing Education  
PO Box 425649  
Denton, TX 76204-5649  
Telephone: 817/898-3408  
FAX: 817/898-3416  
E-mail:  
F\_WILKERSON@VENUS.TWU.EDU  
S\_FERGUSON@VENUS.TWU.EDU

Conference Organizing Committee:

Chairperson: Jerry Wilkerson  
Co-Chair: Colleen Ferguson  
Secretary: Terri Franklin

The  
**INTERNATIONAL SOCIETY  
OF BIOMECHANICS IN SPORTS**  
Invites you to  
attend the

**XV SYMPOSIUM FOR ISBS**

at

**TEXAS WOMAN'S UNIVERSITY**  
Department of Kinesiology  
College of Health Studies

and  
Continuing Education

in

Denton, Texas  
U.S.A.

June 21-24, 1997

**TEXAS WOMAN'S  
UNIVERSITY**

Welcome to the ISBS, 1997  
ISBS, 1997 is the 15th International Symposium  
of Biomechanics in Sports. The ISBS, 1997 is a  
joint effort of the Department of Continuing Edu-  
cation, the Department of Kinesiology, and the  
College of Health Sciences at Texas Woman's Uni-  
versity. The ISBS, 1997 will take place at the Uni-  
versity which is approximately 20 miles from the  
Dallas/Fort Worth metropolis in Texas which has  
one of the country's largest international airports.  
The Symposium will take place from the 21st to  
the 24th of June, 1997. Educational and entertain-  
ment tours and activities will provide a balance  
of social events with the scientific program of the  
Symposium.

**ISBS CONFERENCE OBJECTIVE**

To provide a forum for researchers, teachers,  
coaches, and practitioners in sports biomechan-  
ics (Article 1.0 ISBS Constitution).

**SYMPOSIUM TOPICS**

- Pure and Applied Sports Biomechanics
- Biomechanics in Coaching and Teaching
- Applied Methods and Instrumentation
- Computer Simulation and Optimization
- Biomechanics Sports Rehabilitation
- Biomechanics of the Musculoskeletal  
System
- Biomechanics of Training and Sport  
Equipment
- Biomechanics in Sport for Special  
Populations

**OFFICIAL LANGUAGE**

The official language of the Symposium is  
English.



XV ISBS.

Hosted by

Texas Woman's University  
Department of Kinesiology  
College of Health Sciences  
Continuing Education  
Denton, Texas, USA

TO RECEIVE ALL FURTHER INFORMATION - REGISTRATION PROCESS, ABSTRACT AND MANU-  
SCRIPT PROCEDURES, PLEASE RETURN THIS CARD WITH ALL DETAILS INCLUDED. THANK YOU.

PLEASE PRINT IN BLOCK LETTERS

Name Last \_\_\_\_\_ First \_\_\_\_\_ Title \_\_\_\_\_ Position \_\_\_\_\_  
Institution \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_  
Phone \_\_\_\_\_ Fax \_\_\_\_\_ Internet/E-mail \_\_\_\_\_  
Daytime Phone ( \_\_\_\_\_ ) \_\_\_\_\_





1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The records should be kept up-to-date and should be easily accessible to all relevant parties.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include direct observation, interviews, and the use of statistical techniques. Each method has its own strengths and weaknesses, and it is important to choose the most appropriate method for the specific situation.

3. The third part of the document describes the process of data analysis. This involves identifying patterns and trends in the data, and then using these insights to make informed decisions. The process is iterative and often requires a combination of different techniques.

4. The fourth part of the document discusses the challenges of data analysis. These challenges include the large volume of data, the complexity of the data, and the need for specialized skills and tools. Overcoming these challenges is essential for maximizing the value of the data.

5. The fifth part of the document concludes by emphasizing the importance of data analysis in decision-making. Data provides a solid foundation for making sound decisions, and it is essential to use this data effectively to achieve the organization's goals.

6. The sixth part of the document discusses the importance of data security. Data is a valuable asset, and it is essential to protect it from unauthorized access and loss. This involves implementing strong security measures, such as encryption and access controls, and ensuring that all data is backed up regularly.

7. The seventh part of the document outlines the various ways in which data can be used to improve organizational performance. This includes using data to identify areas for improvement, to track progress, and to make data-driven decisions. Data is a powerful tool for driving change and achieving success.

8. The eighth part of the document discusses the future of data analysis. As technology continues to advance, the amount of data available is growing rapidly, and the need for effective data analysis is becoming even more critical. This will require the development of new tools and techniques, and the training of a new generation of data analysts.

9. The ninth part of the document concludes by reiterating the importance of data analysis in the modern business environment. Data is the lifeblood of the organization, and it is essential to use it wisely to ensure long-term success.

10. The tenth part of the document discusses the importance of data ethics. Data is a powerful tool, but it can also be used in ways that are unethical or harmful. It is essential to establish clear guidelines for the use of data, and to ensure that all data is used in a responsible and transparent manner.