



American Society of Biomechanics Newsletter

Vol. 2

March, 1989

No.1

From Our President - Malcolm H. Pope -

It is a privilege to be writing to you as the President of this great organization. These last few years have seen a considerable evolution of ASB. Through the efforts of our Past-Presidents and executives great advances have been made. We have linked ourselves to the Journal of Biomechanics and our voice is heard on the editorial board. We have held a joint meeting with the Canadian Society and are planning a second NACOB and participation in the 1990 World Congress of Biomechanics. We have established awards for established researchers (Borelli award) as well as for young investigators. These are achievements for which we, as a society, can feel justly proud.

Those of you who attended the last meeting in Urbana could not help but be impressed by the quality of the presentations and of the scholarship of the work. ASB is, I believe, in very good shape. We have a dedicated and hardworking executive. The secretariat runs smoothly and our financial status is reasonably secure. We must not be complacent however. Although ASB is the most well rounded of any professional society, we could benefit from more input in our meetings from our colleagues in Biology and Ergonomics. Perhaps if we all made a personal effort to invite our colleagues in these areas, this might make a difference. At any event, I am sure that our next meeting in my adopted hometown of Burlington will be excellent. I welcome your participation in our 1989 meeting and offer you a personal welcome to Vermont.

ASB Annual Meeting Update

13th Annual Meeting

Plans are set for the Thirteenth Annual Meeting of the American Society of Biomechanics to be held at the University of Vermont in Burlington from August 23-25, 1989. Meeting chairperson David G. Wilder has recent data refuting the global warming trend and instead predicts an unusually early Autumn. Conference attendees are guaranteed the vivid fall colors not usually seen until October, and since the rest of the country will be unaware of the early seasonal changes, there will be plenty of rooms-with-a-view in Burlington. The Borelli lecture will be a part of the luncheon on the first full day of the conference, and the banquet will be held on a boat on Lake Champlain.

Annual Meeting Guest Speakers

The selection of the guest speakers for the ASB annual meeting in August in Burlington Vermont have nearly been completed

(continued on page 6, see Annual Meeting)

Candidates for ASB Offices Selected

Don Chaffin, Past-president of ASB and Chair of the Nominating Committee, has announced the candidates for the coming year for the three elected positions within ASB. The nominating committee was very pleased with the qualifications of the candidates and that they accepted the nominations. Members are reminded that according to the by-laws of the Society the positions of President, Past-president, and President-elect must all be from three different disciplinary categories. For the 1989-90 period the President will be Roger Enoka (Exercise and Sport Science) and the Past-president will be Malcolm Pope (Engineering and Applied Physics), leaving Biological Sciences, Health Sciences, and Ergonomics/Human Factors as areas from which the next president can come.

More information about each candidate and the ballot will be mailed to members later this spring. The candidates are as follows:

President-Elect

Mimi A.R. Koehl, Department of Zoology, UC Berkeley (Biological Sciences)

George A. Rab, Dept. of Ortho. Surgery, UC Davis (Health Sciences)

Secretary-Treasurer

Melissa G. Hoy, VA Medical Center, Palo Alto, CA

Manssour H. Moeinzadeh, Dept. of General Eng., Univ. of Illinois, Urbana

Program Chair (1991 Annual Meeting)

Christopher (Kit) Vaughn, Dept. of Bioengineering, Clemson University

Felix Zajak, Mech. Eng. Dept., Stanford University

AIRCRAFT BECOMES

ASB SUSTAINING MEMBER

The American Society of Biomechanics has its second Sustaining Member, AIRCRAFT. Their representative is Jim Johnson, and we welcome Jim and AIRCRAFT and express thanks for their support as a Sustaining Member.

The Sustaining Member category was created in an attempt to broaden the membership in the American Society of Biomechanics to include individuals and organizations that have an interest in the advancement of biomechanics. ZIMMER, Inc. became the first ASB sustaining member last summer, and it is hoped that the membership in this new category will continue to grow. Several additional corporations have already expressed an interest and names will be announced as soon as their membership is made official. Guidelines for sustaining members are available from the membership chair, Thomas D. Brown

The American Society of Biomechanics

Then . . .

- Historical Perspective -

How ASB Began

Iyväskylä, Finland, July 2, 1975 - During the Vth International Congress of Biomechanics twenty-two scientists from the U.S. met to consider the founding of an American Society of Biomechanics. This meeting followed a series of informal discussions held over the previous several years that had identified a need for a broad discussion of the pros and cons of forming an American Society. Dr. James Hay served as the chairman of the session, beginning a role with several others that was instrumental in the formation of the society.

Suggestions were made to combine with the newly formed Canadian society or with the American College of Sports Medicine, but it was decided that a neutral ground would be more advantageous. A tentative name of the United States Society of Biomechanics was adopted and suggestions for individuals to be on a working committee were obtained, with Dr. Hay elected as Chairman pro-tem and Gary Soderberg as interim secretary.

Chicago, January 15, 1976 - The working group met to begin development of the Society and consisted of Richard A. Brand, Don B. Chaffin, F. Gaynor Evans, James G. Hay, Albert B. Schultz, and Gary L. Soderberg. To identify the need for and interest in an American Society of Biomechanics (the name United States Society of Biomechanics had evidently evaporated by this time), the group identified a variety of journals they would ask to publish a notice about the formation of such a society.

It was agreed that the prime function of the society would be to bring together biomechanics researchers in diverse fields for the purpose of exchanging information of mutual or common interest. The focus of the society was to be on research rather than teaching, and attempts would be made to avoid duplication with organizations already operational. A definition of biomechanics proposed by Hatze (*J. Biomech.* 7:189-190, 1974) was adopted, which stated: "Biomechanics is the study of the structure and function of biological systems by means of the methods of mechanics."

The group decided on a general format for a meeting and chose October of 1977 for the first meeting to be held in the Mid-West. Affiliation with the *Journal of Biomechanics* was set as a goal, with a newsletter to come from ASB. At the time two categories of membership were envisioned, a full active member with formal training and/or experience, and an associate member with interest and active involvement with biomechanics research.

Chicago, May 26, 1976 - By this time 78 inquiries and information sheets had been received from interested persons. Two letters expressed concern over the formation of another society: one concerned with the inclusion of biological entities into AS; the other raising the question of possible duplication of ASB with ASME.

The working group still felt that the scope of all other organizations were much more limited than the intent of the ASB. Discussion was held concerning the first meeting of ASB and Iowa City was selected over Detroit and Chicago. A format was selected for the meeting, much the same as it still is today. While some sources of funding for the Society had been investigated, it was eventually decided that ASB could probably be self-sustaining from the outset. A draft of a constitution prepared by Evans was discussed.

Chicago, November 5, 1976 - Interest in the Society had continued to grow, with 147 responses received. One newsletter had already been distributed, and plans for a second that would update interested parties concerning the development of the Society and plans for the first meeting were drawn up. Eighty-five potential members reported their primary disciplines as: medicine 21 (15 in orthopedics); engineering 25 (12 in mechanical); biological sciences 9; physical education 24; ergonomics 3; others 3.

Plans for the initial meeting in Iowa City projected 50 attendees plus additional students and the \$25 registration fee projected a \$1250 budget, a little over 10% of that for the 1988 meeting. Two departments at the University of Iowa committed to underwrite the budget should the meeting prove to be a financial loss. Guest speakers were selected along with the decision not to provide honorarium or cover expenses, and plans were made to distribute a book of abstracts. A blind review of abstracts was planned.

The constitution for the Society was discussed and modified. It was agreed that a Charter Member category be instituted and that participants in the first regular meeting would be Charter Members. Honorary and Emeritus member categories were agreed upon (formal guidelines for these categories were just approved by the Executive Board in 1988), and the break-up into disciplinary categories for the purposes of officer selection was approved. A procedure for the President, Past-President, and Vice-President to be from different disciplines was agreed upon.

Iowa City, October 17-19, 1977 - The founding meeting for ASB convened with approximately 70 potential members present. The activities of the organizing committee and current status of the Society were discussed, and a slate of officers drawn up by James Hay were unanimously approved for the Society's initial year of existence. F. Gaynor Evans was elected as the first President of the Society, with Albert Burstein designated as President-Elect. Savio Woo as Secretary-Treasurer, Richard Brand as Meeting Chairperson, Albert Schultz as Program Chairperson, and James Hay as Chair of the Nominating Committee rounded out the first year's elected officials.

The First Annual Meeting was held in the Iowa Memorial Union and consisted of 17 free communication papers and three keynote presentations. Doris Miller, Albert Burstein, and Carl Gans were the invited speakers, and the papers were spread over a day and a half in six sessions, none of which were concurrent.

Who Comprises the ASB Membership?

In September the American Society of Biomechanics becomes a teenager when the 13th Annual Meeting is held. Membership in the organization has shown a healthy growth over the past few years (reference could be made to puberty, but that may not be appropriate), currently sitting at an all-time high of 410. Quite a change from the six individuals who formed the initial organizing committee for the Society and the approximately 70 attendees at the first annual meeting meeting.

One of the original goals of the Society was to bring together biomechanists from diverse fields and provide a forum for the exchange of ideas. Certainly a high degree of success can be claimed by all those who have worked to build to Society over the past twelve years, but there will always be a desire to increase the number of members, improve the quality of the annual meeting, and broaden the diversity of the membership.

What follows is a brief look at who makes up the ASB membership. This information is derived from the membership records of the Society. Because there is still some information missing for a number of individuals, some of the statistics presented may be slightly in error. Be assured that any omissions or embellishments are not intentional! If you or your institution have been misrepresented in some way, the best thing to do is contact R. Bruce Martin, Secretary-Treasurer for the Society, and provide him with information that will update the membership directory. If you are not sure if your information is correct, check the membership directory that was sent out last year.

Current ASB Membership

As of March, 1989, the ASB members were comprised as follows:

Regular members	340
Student members	25
Student members (with Journal)	43
Sustaining members	2
Total	410

As of the annual meeting in September, there were 321 regular members, 72 student members, and one sustaining member for a total of 394, and this was an increase of 26% above the previous year. In September, the breakdown by discipline was as follows:

Engineering/Applied Physics	40%
Exercise/Sport Science	21%
Biological Science	8%
Ergonomics/Human Factors	8%
Health Sciences	11%
Unidentified	12%

(continued next column)

The strength in numbers in the society is currently in engineering and sport science, and there is obviously room for growth in the biological and health sciences and in ergonomics. It is puzzling that the third most popular status to be in ASB is Unidentified. Are these individuals shy? Confused? Lazy? Going through a mid-life identity crisis? Working in classified research? Perhaps this group name should be given as an option on the membership brochure. Or perhaps they could provide the Secretary-Treasurer with the missing information.

And The Winning University Is . . .

Two of the goals of ASB would have to be growth and diversity. Accepting this premise, how do individual Universities or Colleges rank in contributing to these objectives? There are five designated disciplines within the Society, and just as ASB strives for representation from all of these, it would seem logical that individual institutions would also benefit from having a broadly based program. How many Universities can claim to have members in each of the five categories? The Society also benefits from increased numbers of contributing members and from an infusion of new talent, i.e. from increased numbers of student members. Which Universities have the most ASB regular and student members?

While there are no statues to hand out or research funds to award, institutions with diverse programs and large numbers of members deserve recognition. According to the Society's database (which may not include some of the more recent additions to membership, and may be missing some information for some individuals), the winners are.....

The University of Michigan. Hands down. It is the only University with representatives from all five disciplines, and there are 18 ASB members including 6 students. Two institutions have members in four areas, the University of Iowa and the University of Wisconsin-Madison. A host of universities have representatives from three disciplines, including Arizona State, Michigan State, Northwestern, Penn State, University of Arizona, University of Calgary, University of California, Davis, University of California, Los Angeles, and the University of Illinois Urbana.

In terms of numbers, no one is close to Michigan. Iowa, UC Davis, and Wisconsin have 8, Case Western, Penn State, and Stanford have 7, and Michigan State, University of Calgary, UCLA, and University of Cincinnati all have 6.

Obviously the quality of biomechanics programs cannot be judged from breadth and numbers alone, but these are still features of a program that might be of interest to prospective graduate students. All members of the Society are encouraged to recruit appropriate individuals on their campus who might profit from an association with ASB but are not yet members, including students. Both your university and ASB will benefit, and if your institution matches the breadth or numbers of the Universities highlighted here, you might even get special mention in the ASB Newsletter!!!

**American Society of Biomechanics
Executive Board 1987-88**

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Thomas D. Brown
Membership Committee
University of Iowa
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The Newsletter Needs Your Contribution!

Members are encouraged to contribute to the newsletter. A note, a letter to the editor, a lead to an interesting story, information about a scientific meeting, an opinion, or a feature article - anything that might be of interest to others in the Society. There is particularly a need for contributions specific to the various subdivisions within ASB, including information about upcoming meetings. Send information scrawled in longhand, or on disk via Macintosh or IBM Microsoft Word, or in text format. **Anyone interested in contributing on a one-time or regular basis should send suggestions to:**

Keith R. Williams
Newsletter Editor, ASB
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Davis, CA 95616
Tel. 916-752-3337

**Chaffin Traded to Iowa, Wisconsin
Hunts for M.D. in Health Sciences**

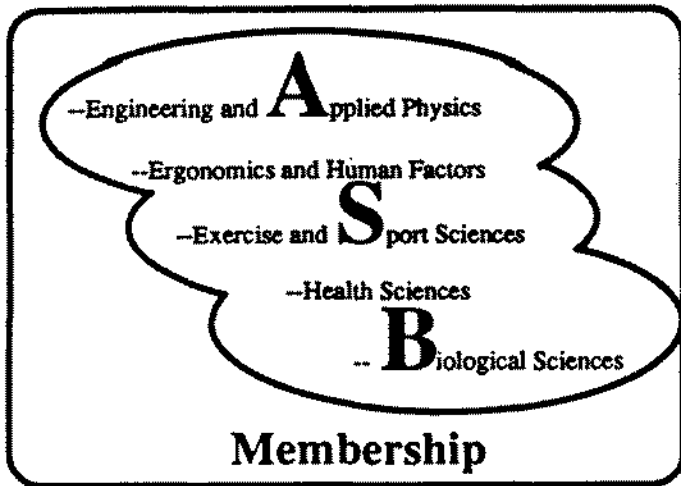
(See related stories, Page 3)

The American Society of Biomechanics was turned upside down last week when universities across the nation sought to bolster their programs by ensuring that they are represented in all five ASB member categories. Surprisingly, a number of ASB Past-presidents have been involved in the transactions, proving that they are not yet over-the-hill. In a startling move, Don Chaffin was traded to the University of Iowa for an undisclosed amount of cash and options for five graduate students over the next two years. By adding Chaffin to their staff, Iowa, which previously did not have anyone listed in the ASB record books in the ergonomics/human factors discipline, is now represented by individuals in all five disciplines. The loss of Chaffin leaves Michigan with no lack of ergonomists, and they can still claim Al Schultz as an ASB Past-president to be paraded around when dignitaries visit the campus. Apparently Michigan figured that Chaffin had peaked last year when he was ASB president and decided to get what they could for him before he developed work related injuries that could not be rehabilitated.

Since the announcement of the Iowa-Michigan deal the University of Wisconsin-Madison has been involved in heated discussions. With ASB members currently designated in four disciplines, they are reportedly searching for a representative from the Health Sciences and will pay top dollar. Peter Cavanagh at Penn State, who has done a number of clinically related studies, was offered an endowed chair if he would switch his discipline category and move to Madison, but he respectfully declined due to the atrocious weather in Wisconsin compared to State College. Wisconsin has since been besieged by offers from other ASB Past-presidents to change their disciplines, and if necessary change their names, for the opportunity to move. Doris Miller viewed a move to the relatively balmy winter weather in Madison to be attractive, and Savio Woo expressed interest until he found out Wisconsin was in fact not on the other side of Arizona. Dick Brand also offered to change his discipline in order to qualify for the position, but officials declined his offer when they discovered that he already had the appropriate discipline, but apparently did not know it.

Jim Hay (Exercise and Sport Science) and Malcolm Pope (Engineering/Applied Physics and soon to be a Past-president) were miffed at being left out of the bidding wars, and have taken steps to form their own coalition. They are lobbying first to change the by-laws of the society so that current Presidential candidates George Rab (Health Sciences) and Mimi Koehl (Biological Sciences), can share the job of President of the Society for 1989-90. Then both these individuals would be recruited into a new nationwide biomechanics department being formed in affiliation with National University. Currently Hay and Pope are lobbying for an additional change in the by-laws that would reduce the disciplines in ASB to four.





New Members

—Regular members—

- George Van B. Cochran
- Brent Constantz
- Roy Crowninshield
- John Carey
- Chukuka S. Enwemeke
- Virginia L. Fortney
- David P. Fyhrle
- Serge A. Gracovetsky
- Carolyn Jaslow
- Edward Jauch
- Jim Johnson
- Janet L. Kuhn
- Mario Lamontagne
- Russell W. Lee
- Thomas McMahon
- Jill McNitt-Gray
- Mike Papakyriakou
- Hyun Chul Park
- John Rosecrance
- Brian A. Rothbart
- James A. Sawhill
- James A. Schaaf
- Dale Schuit
- Sorin Siegler
- Steven J. Stanhope
- Jeffrey C. Trinkle
- Steven Vogel
- Scott C. White
- Steven G. Wiker

- BS
- EAP
- S
-
- HS
- ESS
- EAP
- EAP
- BS
- EAP
- S
- EAP
-
- EAP
- BS
- ESS
- EAP
- EAP
- HS
- EAP
-
- EAP
- HS
- EAP
- HS
- EAP
-
- BS
- EHF

—Student Members—

- Byeong Hwa Ahn
- Rafael E. Bahamonde
- Frank Buczek
- Patricia M. Freeman
- Benjamin J. Fregly
- Gary D. Heise
- Matthew L. Jimenez
- Carter J. Kerk
- Brenda A. Torres

- ESS
- ESS
- HS
- EAP
- EAP
- ESS
- HS
- EHF
- EHF

- EAP - Engineering and Applied Physics
- ESS - Exercise and Sport Sciences
- HS - Health Sciences
- EHF - Ergonomics and Human Factors
- BS - Biological Sciences
- S - Sustaining Member Representative

**HONORARY AND EMERITUS
Membership Categories**

Criteria for two new categories of membership have been approved by the Executive Board at their mid-year meeting. Honorary membership is meant to recognize individuals who have made significant contributions to biomechanics while Emeritus membership is for those who have retired from professional employment in biomechanics related fields. Members are encouraged to submit names of individuals they think are deserving of the Honorary Member category to the Executive Board. The criteria for membership in each category is as follows:

Honorary Members

1. Candidate must have made a major contribution to the field of biomechanics but may not meet the traditional criteria for membership in the Society. The contribution to biomechanics may be administrative, educational, or fiscal in nature.
2. Candidates are nominated by Members with a written recommendation to the Executive Board. The nomination shall comprise three favorable letters of recommendation from current Society members, a copy of the Candidate's curriculum vitae, and the assent of the Candidate. Candidates shall be awarded Honorary member status by a two-thirds majority vote of the Executive Board.
3. Honorary Members will have non-voting status.
4. The membership fee is waived. Honorary Members may receive the Journal of Biomechanics at the Society rate.
5. Honorary Members shall receive a certificate of membership and will be invited to attend each Annual Meeting of the society, for which they will have the registration fee waived.

Emeritus Members

1. Candidate must be retired, due to age or illness, from professional employment in biomechanics-related fields.
2. Candidate must have been a Member of the Society for at least five years and made outstanding contributions to the field of biomechanics and to the Society.
3. Emeritus Member status is nominated by the Awards Committee and approved by a two-thirds majority vote of the Executive Board.
4. Emeritus Members will retain their voting status and the full privileges of membership for life.
5. The membership fee is waived. Emeritus Members may receive the Journal of Biomechanics at the Society rate.
6. Emeritus Members may be awarded Posthumously.

Exercise / Sport Network

The AAHPERD Research Consortium and Napehe have co-sponsored two meetings of representatives from groups concerned with physical education, exercise, and sport research and scholarship. The second meeting was held in September, 1988. Those attending recommended continued communication among the groups with the following draft title and purpose:

Title: Exercise/Sport Network

Purpose: The purpose of the Exercise/Sport Network is to enhance the communication among and about constituent organizations involved in research and scholarship in exercise and sport. For example, communication may be facilitated by exchanging newsletters, disseminating conference/membership information, and identifying grant sources. A future issue to be addressed is the promotion of exercise/sport scholarship with a concern for development of funding sources.

ASB is asked to consider whether it wishes to continue its involvement with ESN and whether it wants to send a representative to the next ESN meeting in January, 1990 in San Diego. Any ASB member having any suggestions or comments should convey them to an ASB Executive Board Member.

ASB Finances Audited by MEUCD Review Team

While Secretary-Treasurer R. Bruce Martin tapped his fingers nervously at his desk, a team of auditor-scientists from the Mechanical Engineering Department at UC Davis scrutinized the ASB accounting books. After weeks at a computer terminal developing complex control system models, auditor Mont Hubbard found the ASB books somewhat simplistic and boring. He developed an intricate algorithm that, after using the rest of his research funds for the year, could find no fault with the society's accounting. Fellow snooper Maury Hull dusted off his slide-rule and came to the same conclusion. Following announcement of the successful audit to the ASB Executive Board and on local TV, Martin was observed unpacking his bags and was rumored to have canceled a plane reservation to Taiwan. When questioned by a local news anchor-man, he was quoted as saying: "Fooled 'em again, didn't I".

Annual Meeting

(continued from page 1)

according to Program Chair Jean Landa Pytel. Dr. Suzanne Rodgers, a consultant in Ergonomics and Human Factors will speak about occupational applications of biomechanics, and Dr. William Harris, Chief, Hip and Implant Service at the Massachusetts General Hospital will speak about his work. The third guest lecturer had not yet been chosen at press time.

Abstract submission

In a change from previous years, abstracts submitted for the annual meeting in 1989 will undergo a blind review. The number of abstracts submitted has continued to grow, reaching 116 for last year's meeting which was a 13% increase over the 103 received the year before. Suggestions have been made to increase the length of abstracts so that more information could be provided, as well as to send the abstract book out prior to the meeting. Both these suggestions have been referred to the Executive Board for consideration.

Short Subjects

- Miami, or some other Southeastern site, is being considered for the 1990 Annual Meeting.
- ASB will play a role in organizing the World Congress on Biomechanics to be held in August, 1990, but the ASB Annual Meeting will be held elsewhere.
- The 1992 meeting is planned to be another NACOB meeting in conjunction with the Canadian Society of Biomechanics. The meeting in Chicago is tentatively scheduled to begin on a Sunday and end on a Thursday. Lou Dragonich will be the Program Chair, and Paul Allard and Micheline Gagnon of CSB will also be involved.

BIOMCH-L

AN ELECTRONIC MAIL DISCUSSION LIST FOR BIOMECHANICS

by Herman J. Woltring (*)
Eindhoven, The Netherlands

An electronic Mailing list has been created for members of the International Society of Biomechanics and related organizations (e.g. ASB, ESB, CSB) which, at least for users of EARN/BITNET/NETNORTH systems, allows free exchange of information with fellow-members on the list. In view of the overlap between Biomechanics and other fields such as Kinesiology, Bioengineering, Motor Control, and Physiology, the list is also currently open to non-members, though this may change.

Users on EARN/BITNET/NETNORTH may subscribe to the list by electronic mail or by sending one of the following interactive commands (or the equivalent command for their system):

VAX with VMS: SEND LISTSERV HEARN SUB BIOMCH-L <name>
VM/SP: TELL LISTSERV AT HEARN SUB BIOMCH-L <name>
MVS with TSO/E: TRANSMIT HEARN.LISTSERV NOPROLOG and enter SUB
BIOMCH-L <name> <PF> on the screen
where <name> should be the user's full name (initials and last name).

Messages can be submitted for distribution over the list by sending the message in mail format to BIOMCH-L HEARN (but NOT to LISTSERV HEARN!). At present, the list is open for subscription and distribution without editorial interference; depending on the quality of list usage, editorial interference may remain unnecessary. Note that EARN/BITNET/NETNORTH imposes certain standards regarding non-academic use; see the relevant information which can be obtained from NETSERV HEARN or from any other NETSERV fileservers on EARN/BITNET/NETNORTH. In order to protect the subscribers' privacy, their names and electronic addresses cannot be REVIEWed (even though subscription is open to anyone); depending on subscribers' wishes, this policy might be reconsidered.

For details on the use of LISTSERV facilities, users should request general LISTSERV information by sending the request:

VAX under VMS: SEND LISTSERV HEARN INFO <keyword> or the equivalent command for other systems, where <keyword> can be one of the following (capitals are mandatory, lower case letters are optional):

?	Short summary of all INFO files
GENIntro	General introduction to LISTSERV
PRESENTation	Summary of technical information on LISTSERV
REFcard	Reference card with short descriptions of LISTSERV commands

At present, the list exists merely at the central EARN-node in The Netherlands (HEARN at the University of Nijmegen). Depending on list usage, so-called "peer servers" may be created in other countries so as to reduce long-distance electronic mail expenses. In addition, this would allow use of the option for "local" distribution from one server (e.g. nation-wide) or for "global" distribution from all servers simultaneously.

To some extent, non-EARN/BITNET/NETNORTH users may communicate via electronic mail messages (but not interactively as in the above examples). If this fails, Dr. Woltring will be happy to enter their electronic addresses in the BIOMCH-L distribution list. Note that use of the facility on other networks (UUCP, ARPA/Internet, Eunet) may entail expenses which are charged to the user.

*EARN/BITNET/NETNORTH: wwtmhjw heitue5, wwtmhjw heitue51

6 ARPA/Internet: no.woltring na-net.stanford.edu

Need a Job?

This location will be used to advertise any positions that might be of interest to ASB members. Forward a copy of the position announcement and it will be included in the next issue of the newsletter.

California State University, Sacramento

Tenure-track position in Biomechanics. **Responsibilities:** G and UG teaching in biomechanics; advising; conducting research; committee work. Demonstrated expertise and ability to utilize computer technology is essential. **Qualifications:** Doctorate or equivalent with specialization in Biomechanics. ABD candidates will be considered. **Application:** Application review begins April 3, 1989. Submit vitae, three letters of recommendation, transcripts and documentation of experience to James S. Bosco, Chair, Department of Health & Physical Education, California State University, Sacramento, 6000 J Street, Sacramento, CA 95819-2694.

State University of New York at Buffalo

Assistant/Associate Prof. tenure-track position in biomechanics. **Responsibilities:** Conduct and publish research in biomechanics; teach biomechanics in physical therapy/exercise science and occupational therapy; student advisement; committee work. **Qualifications:** Ph.D. in biomechanics, established research record for assoc. level; documented research potential for appointment at asst. level; teaching experience. **Application:** Review of applicants begins April 15 with final deadline of June 1. Submit letter of application, curriculum vitae and three letters of reference to: G. Alan Stull, Dean, School of Health Related Professions, 435 Kimball Tower, State University of New York at Buffalo, Buffalo, NY 14214.

State University of New York at Buffalo

Professor and Associate Dean. Academic appointment in one of the following: Exercise Science, Medical Technology, Nuclear Medical Technology, Nutrition, Occupational Therapy, Physical Therapy. **Responsibilities:** Teaching; advising; conduct research; publish and seek external funding. Responsible for academic programs in School, seek, coordinate and administer external funding. **Qualifications:** Doctorate with international reputation as a scientist, established record of external funding at national level. Academic preparation in one of the disciplines represented in the School, research advising experience, documented effectiveness as teacher. **Application:** Applicant review begins April 14 with final deadline of June 1. Send letter of application and vita and have three letters of reference sent to Associate Dean, Search Committee, c/o School of Health Related Professions, University of Buffalo, 435 Kimball Tower, Buffalo, NY 14214.

University of Cincinnati Medical Center

Research Assistant Professor, Orthopaedic Biomechanics Laboratory. **Responsibilities:** Perform and supervise research; teaching biomechanics; develop research funding. **Qualifications:** M.S. in engineering, preferably mechanical, civil, or engineering mechanics; experience and courses in biomechanics and biomaterials; background in experimental methods; writing and communication skills. **Application:** Applications must be received by April 15 for the initial evaluation, but the deadline will be extended until the position is filled. Send a resume and the names, addresses, and telephone numbers of three references to: Edward C. Jauch, M.S.M.E., Dept. of Orthopaedic Surgery, University of Cincinnati Medical Center, 231 Bethesda Ave., ML212, Cincinnati, Ohio 45267-0212.

University of Wisconsin-Madison

Associate/Assistant Professor tenure-track position in biomechanics. **Responsibilities:** G and UG teaching; research; advising. **Qualifications:** Ph.D. in biomechanics; teaching ability in biomechanics; record of refereed publications and extramural funding; postdoctoral experience desired. **Application:** While the application deadline closed February 1, the search will continue until a suitable candidate is located. Send letter of application, current CV, three reprints of most recent research publications, and the names, addresses and phone numbers of three references to Professor William P. Morgan, Chair, Biomechanics Search Committee, Department of Physical Education, University of Wisconsin-Madison, 2000 Observatory Drive, Madison, WI 53706.

University of Wisconsin-Madison

Two assistant, associate or full professor positions in Orthopedics, Biomechanics, Electrophysiology/Physical Agents in the Physical Therapy Program. **Responsibilities:** G and UG teaching in area of specialization; direct and conduct research; seek external funding; University service activities. **Qualifications:** Graduation from an accredited program in physical therapy; doctorate in bi-

omechanics, physical therapy, or related field; potential for conducting research in area of specialization; expertise in one or more of the areas mentioned above. **Application:** March 20, 1989 or until positions filled. Send letter of application, vita, and three letters of reference to Millard Surman, Ph.D., Acting Dean, School of Allied Health Professions, 1080 Medical Sciences Center, University of Wisconsin-Madison, 1300 University Avenue, Madison, WI 53706.

United States Olympic Training Center

Senior Biomechanist. **Responsibilities:** Provide leadership for clinical and research activities; present lectures and professional programs for athletes, coaches and peers; conduct research in applied sport biomechanics; coordinate department staff. **Qualifications:** Doctorate in biomechanics; three to five years professional biomechanics experience; record of scholarly productivity and involvement in applied sports biomechanics; demonstrated leadership ability. **Application:** Submit letter of interest, resume of education, work and related experience, and list of professional references and salary requirements to Robert O. Voy, M.D., Director of Sports Medicine and Sports Science, United States Olympic Committee, 1750 East Boulder St., Colorado Springs, CO 80909-5793. Application must be complete by April 1, 1989 to receive consideration.

Syva Company

Bioengineer/Biochemist. **Responsibilities:** Work in development group with primary responsibility for detection system biohazard studies and physical measurements. **Qualifications:** B.S. in bioengineering or biochemistry plus 5-7 years experience, M.S. with 3-5 years experience, or Ph.D. + postdoc with biochemistry emphasis; experience in assay development on automated instruments. **Application:** Resumes should be sent to Syva Company, Professional Employment, Dept. HT, P.O. Box 10058, Palo Alto, CA 94303-0847.

University of San Francisco

Term appointment in kinesiology and biomechanics. **Responsibilities:** Teach biomechanics, measurement and evaluation, and in activity program; conduct research; expand research facilities and pursue research grants. **Qualifications:** Ph.D. or Ed.D.; evidence of successful college-level teaching; evidence of published research. **Application:** Send resume and references to Physical Education Search Committee, College of Arts and Sciences, University of San Francisco, Ignatian Heights, San Francisco, CA 94117.

Ibaraki University, Japan

Foreign researcher in the College of General Education for a two year position. Associate/assistant/full professor or lecturer in any of several areas including biomechanics. **Responsibilities:** Teach freshmen/sophomore classes in field of specialization; optional teaching in conversational English. **Qualifications:** M.A. or current or previous college professor position or expert in field of specialization. **Application:** Deadline, April 30, 1989. Send resume with personal information and photo, copy of degree certification, summary of academic and research achievements, copies of three published papers, short essay on the topic "Japan and me", and letters of recommendation to Professor Akira Takeda, Dean, College of General Education, Ibaraki University, 2-1-1 Bunkyo, Mito, Ibaraki 310 Japan.

University of Southern California

Two positions in Biomechanics. **Responsibilities:** Supervise research assts., medical students, orthopaedic residents in research program; develop external funding. **Qualifications:** Ph.D. in biomechanical or biomaterials engineering with emphasis on orthopaedic implants, reaction of soft and hard tissues to implants, and effects of implants on fracture healing; or Ph.D. in biological sciences with emphasis on anatomy and physiology of skeletal system and research interest in reaction of bone to implants and biology of fracture healing. **Application:** vitae, reprints of relevant publications and names of three references to: Harry McKellop, Ph.D., Director, Biomechanics Research Laboratory, Orthopaedic Hospital/ University of Southern California, 2400 S. Flower Street, Los Angeles, CA 90007.

Coming Events

April 14-15, 1989

The Changing Role of Engineering in Orthopaedics, Westminster, London. (c/o Andree Johnson, Conference Department, C384, The Institute of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, SW1H 9JJ.

April 26-30, 1989

Advances in Ergometry, 6th International Seminar on Ergometry. Vienna, Austria. (c/o Doz. Dr. Norbert Bachl, Institut für Sportwissenschaften der Universität Wien Abteilung Sportphysiologie, Auf der Schmelz 6, A-1150 Wien/Vienna, Austria.

(continued next page)

June 12-16, 1989 - Occupational Ergonomics
June 19-22, 1989 - Occupational Ergonomics Advanced Workshop
June 19-21, 1989 - Ergonomic Methods Using Microcomputers
August 7-9, 1989 - Current Topics in Occupational Safety: Prevention of Upper Limb Injuries
Engineering Summer Conferences, Ann Arbor, MI (c/o Engineering Summer Conferences, 400 Cryster Center, North Campus, The University of Michigan, Ann Arbor, Michigan 48109, Tele: 313-764-8490, FAX: 313-936-0253).

June 14-16, 1989
3rd International ITV Conference on Biomaterials, Denkendorf, FRG. (c/o Dr. Ing. H. Plank, Institute of Textile Research and Chemical Engineering, Division of Biomedical Engineering, Koerschaltstr 26, D-7306 Denkendorf, FRG).

June 26-30, 1989
XII International Congress of Biomechanics, Los Angeles. (c/o XII Intern. Congress of Biomechanics, UCLA Dept. of Kinesiology, 2854 Slichter Hall, Los Angeles, CA 90024-1568, USA. Tel.: (213)825-3910 or 825-5376).

June 29-July 3, 1989
Maccabiah-Wingate International Congress on Sport Sciences and Coaching, Israel. (c/o International Congress Secretariat, Wingate Institute for Physical Education & Sport, Wingate Post 42902, Israel).

July 3-7, 1989
"Stride into the 1990's - With Sport Technology and Technique" VII International Society of Biomechanics in Sports, Melbourne Australia. (c/o VII I.S.B.S. - Symposium, Footscray Institute of Technology, Dept. of Physical Education and Recreation, P.O. Box 64, Ballarat Road, Footscray, Victoria, Australia, 3011).

July 16-19, 1989
Symposium 'Head Movement Control', Paris. (c/o A. Berthoz - CNRS - Laboratoire de Physiologie Neurosensorielle - 15 rue de l'Ecole de Médecine - 75270 Paris)

July 18-21, 1989
International Sports Science Conference, Birmingham, United Kingdom. Theme: 'Science in the service of sport'. (c/o The Sports Council, 16 Upper Woburn Place,

London WC1H 0QP. Tel.: 01-3881277, Fax: 01-3835740, Telex: 27830 SPORTC G)

July 31-August 4, 1989
Biomechanics of Human Movement in Orthopaedics, Rehabilitation, Neuroscience, and Sports, MIT, Cambridge, MA. (c/o Office of Summer Sessions, 50 Ames, Room E19-356, Massachusetts Institute of Technology, Cambridge, MA 02139, Tel.: 617-253-2101, Telex: 92-1473 MITCAM, FAX: 617-253-8042).

August 28-September 1, 1989
Paavo Nurmi Congress, Advanced European Course in Sports Medicine, Turku, Finland (c/o Congresspoint LTD, Tihtisomink. 5 G SF-20700 Turku, Finland).

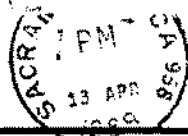
September 11-15, 1989
VIIIth FINA World Medical Congress on Aquatic Sports, London Hospital, London, England. (c/o Conference Services Limited, Aldine House, 9-15 Aldine Street, London W12 8AW, England. Telephone 44-1-740-8121; Telex 916024 CONFER G).

October 15-16, 1989
Eighth Southern Biomedical Engineering Conference, Richmond, Virginia. (c/o Mary Lynn Bowles, Program Coordinator, Office of Continuing Education in Medicine and Allied Health Professions, Box 48, MCV Station, Richmond VA 23298-0048, Telephone (804) 786-0494).

October 28-November 3, 1989
First IOC World Congress on Sport Sciences. Broadmoor Hotel, Colorado Springs, CO. (c/o M.M. Newsom, U.S. Olympic Committee, 1750 East Boulder Street, Colorado Springs, CO 80909. Telephone (719) 578-4575, Telex USOCEDSVCS 7730251, FAX 719/635-2932).

May 27-June 1, 1989
XXIV FIMS World Congress of Sports Medicine, Amsterdam, The Netherlands. (c/o Organisatie Bureau Amsterdam b.v., Europaplein 12, 1078 GZ Amsterdam, The Netherlands, Tel.: 31/2044087. Telex: 13499 raico nl.).

August 26-31, 1990
First World Congress of Biomechanics, La Jolla, CA.



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