



American Society of Biomechanics Newsletter

Vol. 10

June, 1997

No. 1

From the President

Robert J. Gregor

Greetings again from Atlanta, the city of post-Olympic prosperity (and a great deal more traffic). I would like to begin my comments with a final accounting of the 20th Annual Meeting of the ASB held at Georgia Tech last fall. As the result of financial support from the Whitaker Foundation (\$8000), several institutional grants from Georgia Tech and Emory University, the local chapter of the Society for Neuroscience, and the participation of 15 exhibitors and 232 official registrants, the final budget showed a surplus of \$9400. This profit goes directly into the financial reserves of the ASB and, as discussed in my last report, the Executive Board continues to seek innovative ways to "re-invest" these financial reserves into society functions. Currently, the ASB remains committed to student development as represented by our maintenance of very low registration fees at annual meetings and by the recent development of the Graduate Student Grant-in-Aid Program (GIA). Phil Martin, Chair of the GIA review committee (committee membership represents all five major disciplines within the Society), received 25 letters of intent, 11 of which were selected for submission of a full proposal. The range of ideas expressed in these proposals represented the broad interdisciplinary scope of the Society and Phil and his committee will report the final results of their review process with funding intended to begin July 1st. Thanks Phil for all of your work and the work of your committee on the development of the GIA Program.

In an unprecedented gesture of support for the Society, Al Schultz, the 1996 Borelli Award winner has generously donated his \$1000 honorarium to the ASB with the expressed intent it be used to benefit student members. The Society is indeed extremely fortunate to have such a highly respected member not only contribute to our scientific program but also support our educational objectives and student members. On behalf of the Society I would like to thank Dr. Schultz for his very gracious offer. In response

to this donation the Executive Board voted to match the \$1000 and provide a total of \$2000 to student members. Sheila Stevens, our student Representative on the Executive Board, describes in this Newsletter further details on how this money will be used as a result of this "once in a lifetime" offer.

Some additional ideas discussed by the Executive Board at our meeting in San Francisco a few months ago and over email in the past several weeks regarding student support have focused in two areas. Because the Whitaker Foundation has supported our annual meeting for the past several years, money used to keep student registration costs at a fraction of the regular membership registration fees, the Executive Board is in the process of developing a proposal for a more established relationship with the Whitaker Foundation. Mark Grabiner and myself are developing the proposal for presentation to the Board and eventually to the Foundation sometime this fall. In addition, the Board is discussing the development of "Regional Student Meetings" designed to gather students in a centralized location, e.g. a university campus, and in a single day visit with invited speakers to discuss selected topics of interest within the field of biomechanics. Our vision is to select a location (actually we hope there are several volunteers from across

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the country), provide support for two to three speakers to present a morning symposium with possibly student posters in the afternoon, and invite corporate financial support matched by funds local to the university and from the ASB. These meetings would be held in different locations throughout the US, different regions obviously not near in time or location to our annual meeting but possibly close to meetings of other national or international societies with objectives and interests paralleling those of the ASB. These discussions are in the formative stages and I would welcome any and all input from Society members.

I would like to thank Trey Crisco for his work on our new Corporate Member support structure. There are now four levels of support ranging from Corporate Member level to Sustaining Member involving a range of financial commitments and member benefits. As the Society grows, the annual meeting continues to expand warranting a modification of our policies involving corporate support. These developments could, of course, be useful to the regional student meeting. The current procedures should benefit the Society in a number of ways and establish greater strength in our financial structure.

Speaking of expansion, the Executive Board proposes to add a new committee intended to focus on electronic communications within the Society and with other groups having interests similar to those of our membership. Our proposed new "Communications Committee" will be an ad hoc committee for the present time and will be chaired by Dr. Gerald Smith from Oregon State University. As

mentioned in my last report, Jill McNitt-Gray (past chair of the Education Committee) initiated our efforts by establishing the ASB Home Page. The duties required by the Society in the area of electronic communications, however, became extensive and required that we propose a separate committee responsible for several items such as: 1) our home page and its connections to other sites on the Web, 2) publishing our meeting abstracts on the Web, and 3) all other matters related to public relations and communications required to serve the Society and its members. Thanks Gerry, in advance, for your willingness to serve the ASB in this very important part of Society function and I look forward to the positive vote of the membership to add this committee to the Board.

I would like to take this opportunity, since this is my last report as President, to thank Kai-Nan An for his work as Past-President and his duties in selecting award candidates and society elections; Mary Rodgers, whom I am sure you will continue to see in her role as Program Chair for 1997 (nice job Mary), and Vasanti Gharpuray for her efforts as Meeting Chair for the 21st Annual Meeting at Clemson this September. I can speak from experience having served as Program Chair and Meeting Chair, that these positions take a great deal of time. Both Mary and Vasanti have developed what appears to be a very stimulating meeting at Clemson and their time and sacrifice are much appreciated by the Society. Thank you both very much.

And now to my final point. In my last report I closed with some questions and requests related to attendance at our annual meeting. In general, the Board continues to seek information related to improving our most important function, our annual meeting. A very small percentage of members typically attend the meeting and the meeting at Clemson will be a bit longer and have more sessions than previous meetings. Is the modified format acceptable? Should we have more meeting days and consequently more sessions? Is the session content acceptable, and should we include additional topics and invite other exhibitors? The Education Committee is responsible each year to tally the results of questionnaires distributed at the meeting (Suzanne Smith will have a new updated form for us at Clemson) but very few people actually respond. So the challenge this year is for each member to "take a friend to the meeting". We will have more time for interaction, more meeting sessions as well as our usual breadth of speaker topics. Again, we welcome your input.

Have a happy and safe summer, thanks again for your support and I look forward to an enjoyable and stimulating meeting in September.

ASB Newsletter Editorial Board

Joe Hale
Editor/Jobs/Layout
University of Virginia
jhale@virginia.edu

Don Anderson
Calendar
Minneapolis Sports Medicine Center
danders6@fairview.org

Sheila Stevens
Student's Corner
Stanford University
sheila@bones.stanford.edu

Education Committee Chair

Suzanne Smith

ASB Home Page: The ASB Home Page has a new look for 1997! In addition to improving the format of the home page, the content has been revised to include the current Executive Board Members, the December 1996 Newsletter, information on the Twenty-First Annual Meeting being held at Clemson University, and the expansion of the Awards descriptions. A special thanks go to Darryl Hwang, a research assistant in the USC Biomechanics Lab, for the updates and improvements. In the near future, the ASB Home Page will have a new home at Oregon State University. Gerry Smith, chairperson of the ad hoc ASB Communications Committee, will be in charge of maintaining the Home Page. We would like to take this opportunity to extend our appreciation and thanks to Jill McNitt-Gray, past Education Chair, and her colleagues who deserve enormous credit and commendation for their efforts in pursuing the most difficult task of taking the idea of the Home Page and making it a reality.

Graduate Program Data Base: The Graduate Program Data Base has been updated to include program information provided on the 1996 Meeting Evaluation Forms. With the relocation of the ASB Home Page, there may be some changes made in the electronic submission of this information. If you wish to include your graduate program in the data base, please submit the data called for in the current Home Page to the Education Chair or contact the Chair for further information. You will also have the opportunity to submit the information at the 1997 Annual Meeting using the Meeting Evaluation Form.

Listing of Interested ASB Members: The Education Committee has recently established a document listing those individuals interested in becoming more active in the Society, either by serving on a committee or chairing a meeting session. The listing includes those persons who provided information on the 1996 Meeting Evaluation Forms as well as ASB members who have expressed an interest in the past. This document will be periodically updated and distributed to the Executive Board members. Anyone who is interested in becoming more active in the Society should contact the Education Chair.

1997 Tutorials: The topics of the two tutorials selected for presentation at the 1997 Annual Meeting are "The Use of Molecular Biology in Biomechanics", to be presented by Richard Lieber, Ph.D., UCSD and VA Medical Centers,

and "Biomechanical Experimentation: Avoiding Pitfalls When Manipulating Data", to be presented by Brian L. Davis, Ph.D., Cleveland Clinic Foundation. The tutorial on molecular biology will begin by presenting the basic tenets including cell structure and the flow of information from DNA to RNA to proteins. The review of molecular biological methods will include illustrations of their application using examples of vascular, muscle and ligament cell responses to mechanical signals provided by exercise, strain fields and temperature. The tutorial on biomechanical experimentation will focus on methods for manipulating data including dealing with outliers, filtering, normalization, and data which do not fit the assumptions for standard statistical methods. Emphasis will be placed on presenting case studies which demonstrate fundamental "take home" principles. Tutorials for the 1998 meeting are being considered. Please send suggestions for topics and presenters to the Education Chair.

1997 Annual Meeting Evaluation Forms: As in the past, attendees at the annual ASB meeting will be asked to fill out the Meeting Evaluation Forms. The Education Committee would like to emphasize the importance of these evaluations in providing guidance to the Executive Board for improving future ASB conferences. This is the main mechanism for expressing your opinion about the format and content of our annual meetings including the tutorials and keynote lectures. We will continue to encourage all attendees to provide their evaluation by the end of the meeting. The Education Committee is considering an electronic version of the evaluation form which would be available on the ASB Home Page. It is one attempt to make the evaluation process as convenient as possible. Further information will be provided at the 1997 Annual Meeting.

**Don't Forget
to Vote**



**for President
& Program Chair**

Executive Board

1996-1997

President

Robert J. Gregor

Department of Health & Performance Sciences
The Georgia Institute of Technology
Atlanta, GA 30332-0110
Phone: (404) 894-1028
Fax: (404) 894-7025
email: robert.gregor@sac.gatech.edu

Past President

Kai-Nan An

Orthopaedic Biomechanics Laboratory
Mayo Clinic
Rochester, MN 55905
Phone: (507) 284-2262
Fax: (507) 284-5392
email: an@mayo.edu

President-Elect

Mark D. Grabiner

Cleveland Clinic Foundation
Department of Biomedical Engineering
9500 Euclid Avenue, Wb3
Cleveland, OH 44195
Phone: (216) 444-7276
Fax: (216) 444-9198
email: grabiner@bme.ri.ccf.org

Secretary/Treasurer

Joan E. Bechtold

Director, Biomechanics Laboratory
Minneapolis Medical Research Foundation
Hennepin County Medical Center
701 Park Avenue South
Minneapolis, MN 55415
Phone: (612) 336-6609
Fax: (612) 336-6619
email: joan.bechtold@co.hennepin.mn.us

Program Chairperson

Mary M. Rodgers

Department of Physical Therapy
University of Maryland
100 Penn Street
Baltimore, MD 48202
Phone: (410) 706-0840
Fax: (410) 706-6387
email: mrogers@physio.ab.umd.edu

Program Chairperson-Elect

M. Melissa Gross

University of Michigan
Department of Movement Science
401 Washtenaw Avenue
Ann Arbor, MI 48109-2214
Phone: (313) 764-9663
Fax: (313) 763-0013
email: mgross@umich.edu

Membership Committee Chairperson

JJ. Trey Crisco

Orthopaedic Research SWP3
Rhode Island Hospital
593 Eddy Street
Phone: (401) 444-4231
Fax: (401) 444-4559
email: joseph_crisco_iii@brown.edu

Meeting Chairperson

Vasanti Gharpuray

Clemson University
Department of Bioengineering
301 Rhodes Research Center
Clemson, SC 29634-0905
Phone: (864) 656-5555
Fax: (864) 656-4466
email: vasanti@ces.clemson.edu

Education Committee Chairperson

Suzanne D. Smith

Armstrong Laboratory
AL/CFBV
2610 Seventh St., Bldg. 441
Wright-Patterson AFB, OH 45433-7901
Phone: (213) 740-2492
Fax: (213) 740-7909
email: sdsmith@falcon.al.wpafb.af.mil

Newsletter Editor

Joseph E. Hale

Biomechanics Research Laboratory, Box 374
Department of Orthopaedics
University of Virginia
Charlottesville, VA 22908
Phone: (804) 924-5989
Fax: (804) 924-1691
email: jhale@virginia.edu

Student Representative

Sheila S. Stevens

Palo Alto Veterans Health Care System
3801 Miranda Ave. / 153
Palo Alto, CA 94304-1200
Phone: (415) 493-5000 ext. 66252
Fax: (415) 493-4919
email: sheila@bones.stanford.edu

Guest Columnist

Elizabeth McGovern Gibson

Bioethics and Research Involving Human Subjects

For many years the term "medical ethics" offered guidance to physicians on issues such as their dress code and other matters of social etiquette. In the mid-1950's, Joseph Fletcher published Morals and Medicine which probed the nuances of the relationship between doctors and patients. Fletcher saw medicine as an inherently moral activity since many encounters with patients presented the physician with the task of relieving human suffering. Even back in the 1950's, Fletcher recognized the important contribution that research makes to the relief of suffering. Before the field of medical ethics began to address issues emerging within the doctor-patient relationship, research ethics already occupied a prominent position in our social conscience. Unfortunately, it was the atrocities performed by Nazi doctors in the name of research that stimulated international attention to the issue. In response to the horrific stories presented at the Nuremberg Trials, the Nuremberg Code was published in 1949 and attempted to provide some guidance for the conduct of future research. The first element of the Code states "The voluntary consent of the human subject is absolutely essential." Since the early 1970's informed consent has been one of the major concerns of the research community. However, James F. Childress, a bioethicist from the University of Virginia, believes that informed consent should be the last consideration in the ethical justification of any research involving research subjects. When beginning the process of developing research protocols, it is important to evaluate the following questions about the proposed study: (1) Does the study have a desirable goal? (2) Is there a reasonable prospect that the protocol will result in knowledge? (3) Is there a proper ratio between benefits and risks? (4) Is the study absolutely necessary, or is it the last resort for gaining particular information? (5) Are subjects being selected in a fair and equitable way? Only after all of these questions have been answered affirmatively, is it appropriate to raise the question of voluntary informed consent.

Since many considerations of the ethics of research involving human subjects arose in the context of Nazi Germany, the temptation exists to claim that the abuse of research subjects only occurred because they were in concentration camps. However, the reputation of research in the United States is quite mottled. In 1966, 17 years after the publica-

tion of the Nuremberg Code, Henry Beecher published an article that documented 22 examples of abuses in research involving human subjects. These 22 cases were not anomalous; most of the experiments were supported by university medical schools or the government and many appeared in prestigious medical journals. Perhaps the most famous example of the abuse of research subjects is the Tuskegee syphilis study. In this case, the federal government sponsored research on syphilis in poor black men in Alabama beginning in the 1940's. Even after the discovery that penicillin was a successful therapy for syphilis, the government colluded to keep these men from being treated with penicillin in order to observe the long term effects of untreated syphilis. This study continued for well over 30 years and the aftermath of the dishonesty and exploitation permeate many aspects of our health care system. Institutional and federal safeguards now exist to attempt to prevent such widespread abuses but it is the consciences of individual researchers and physicians that ultimately protect human subjects. Knowledge of the history of research ethics and related ethical issues is helpful, but it can not protect against a corrupt investigator. The contribution of research to progress in medicine is undisputed; however, the time pressures created by rapid technological advances often squelch attempts to reflect on the appropriateness of conducting studies with human subjects. Our checkered past of research on human subjects should serve as a living reminder that the lives of the people who serve as human subjects can be irrevocably altered by their experiences in research studies.

Elizabeth McGovern Gibson is a graduate student in medical ethics at the University of Virginia. She has a master's degree in medical ethics and currently serves as a research assistant on the Hospice and Palliative Care Unit at the University of Virginia Health Sciences Center. Her email address is eem7k@virginia.edu.

We Need Your Contribution

Members are encouraged to contribute to the newsletter. A note, a letter to the editor, a lead on an interesting story, information about a scientific meeting, in fact anything of interest to the ASB membership would be most welcome. Send information scrawled in longhand, via e-mail, or on computer diskette for IBM or Macintosh. If you have any other ideas, please get in touch. The next newsletter will be published in November 1997. **Deadline for submission of materials is 15 October 1997!**

AIMBE Report

Thomas D. Brown and Kai-Nan An

AIMBE held its 6th Annual Event in Washington DC on March 1-4, 1997. The main program consisted of several podium presentations and panel discussions addressing issues of "Bioengineering, Innovation, and the Law." The Council of Societies, of which ASB is one of 15 members, held a 2-hour breakout meeting. The two main business items were setting up a Fast Response Network (FRN) and starting preliminary planning for the World Congress on Medical Physics and Biomedical Engineering, to be held in Chicago, July 23-28, 2000 (WC2000). On the FRN, AIMBE from time to time needs to provide "rapid" position statements on matters coming up in various federal agencies, congressional liaisons, etc., for some of which they think it appropriate to rapidly poll the constituent societies. ASB provided the names of two FRN representatives (Tom Brown and Kai-Nan An) who would consult with the ASB President and/or Board of Directors, as appropriate, to convey ASB's position on whatever rapid-response AIMBE business items may arise. On WC2000, ASB was asked to interface with the Central Program Committee to begin identifying session topic(s) or tracts that might be of interest for potential co-sponsorship by ASB. While the timing of WC2000 is relatively close to our usual ASB meeting dates, WC2000 is a very large international meeting that is already committed to go forward. So, we intend for ASB to monitor the preliminary planning process for WC2000, and to interface as appropriate, recognizing that ASB may need to make some decisions in the next year or so as to what role to play in WC2000.

USNCB Report

Manssour H. Moeinzadeh

The U.S. National Committee on Biomechanics met at the AIMBE annual event in Washington, D.C. on March 2, 1997. Among the items on the agenda was the participation of USNCB in the World Congress 2000, scheduled for Chicago, July 23-28. AIMBE is one of three co-sponsors (AMPA, IEEE/EMBS, AIMBE) of the World Congress 2000, and USNCB will have a representative at the Central Programming Committee. Also discussed was the USNCB involvement in the Third World Congress on Biomechanics, August 2-8, 1998. USNCB will nominate individuals for plenary speakers, keynote lecturers, and symposium organizers. Other items of interest included the Fifth Japan-US-Singapore-China (JUSSC) Biomechanics Symposium to be held August 9-12, 1998 in Sendai, Japan. USNCB will have a delegation of senior and young investigators attending this symposium and will seek travel funds from NSF and the Whitaker Foundation for the delegation, particularly the young investigators. Interaction with ANNALS was another item of discussion and it was reported that Drs. Friedman, Goldstein and Spilker had been nominated as Associate Editors to represent USNCB; all three were appointed. Finally, a slate of candidates was nominated for the USNCB Executive committee: Vice-Chair, Secretary and Members-At-Large. Results will be announced after balloting. The next meeting of USNCB will be held at the Summer Bioengineering Conference in Sun River, Oregon, July 11-15, 1997.

Advertising in the ASB Newsletter

The Editorial Board invites various businesses and corporations that we feel have products that would be of interest to members of the American Society of Biomechanics to advertise in the ASB Newsletter.

We are interested in expanding our advertising base and would like any information you may have on North American companies that might have a product or an interest in advertising in the next issue of the Newsletter. Advertising space may also be purchased for job postings or other special announcements.

The current advertising rates are as follows:

1/4 page	\$75
1/2 page	\$150
full page	\$250
back page	\$500
separate insert	\$500 per insertion

Please contact the Newsletter Editor if you are interested in placing an advertisement or have any information concerning potential advertisers.

Program & Meeting Chair Report

Mary Rodgers and Vasanti Gharpuray

Thanks to all who submitted abstracts for the 1997 ASB conference. A total of 164 abstracts were submitted and a blind review was performed by the program committee. (Thank you program committee for your professional and timely reviews!) 95% of the submitted abstracts were accepted for either podium or poster presentation.

To accommodate the increasing number of submitted abstracts, this year for the first time, the meeting will be held over three and a half days instead of the customary three. This has enabled us to increase the number of podium and poster presentations. Also for the first time, all the posters will be displayed for all three days of the conference, and you will have a chance to meet the authors during two wine and cheese poster sessions.

In addition, the entire meeting (excluding lab tours and the banquet) will be held under one roof (the Clyde Madren Conference Center), and the program now includes longer breaks between sessions to allow more time for informal discussions. The banquet will be an a traditional Southern feast on the shores of Lake Hartwell with recreational activities such as canoeing, pontoon boat rides, etc. available for the more adventurous.

In short, the program has something for everyone! Hope to see "y'all" in South Carolina in September!

Twenty-First Annual Meeting American Society of Biomechanics

September 24-27, 1997

CLEMSON 

Clemson University, Clemson, SC

Additional information about the meeting, accommodations, and registration materials are available on the meeting home page at:

<http://www.ces.clemson.edu/bio/1997asb.html>

First Announcement

ASB Graduate Student Grant-In-Aid Program Year 2:

**Request for Letters of Intent
DEADLINE: OCTOBER 15, 1997**

An important mission of the American Society of Biomechanics is to facilitate the development of biomechanics as a basic and applied science. Last year the ASB initiated the Graduate Student Grant-in-Aid Program, the purpose of which is to aid and encourage student members of ASB in pursuing biomechanics research by offering a source of research funding. Awards, which will be distributed on a competitive basis, are meant to offset the costs directly associated with conducting the research. Funds may be used for small equipment items, materials and supplies, and animal or subject costs, but cannot be used to support travel costs or salaries. The Executive Board anticipates making 3-5 awards for the second funding period that will begin July 1, 1998. Award amounts are expected to range from \$500 to \$2500 for a one-year period. Students must be members of ASB or have a membership application pending no later than October 15, 1997 to be eligible for an award. In addition, expected graduation date should not be earlier than December 1998.

A two-stage review process will be used. Interested students must first submit a letter of intent that is postmarked no later than October 15, 1997. Submissions by electronic mail (ASCII text) and fax will also be accepted. The letter of intent should identify: 1) the significance of and need for the research to be conducted, 2) specific aims and hypotheses to be examined, and 3) a brief overview of the methods to be employed. The letter of intent should not exceed two single-spaced pages. Page margins should not be less than 2 cm and font size not less than 10 point.

Those who receive a favorable review at this stage will be invited to submit a full research proposal by Monday, March 3, 1998. The funding cycle will run from July 1, 1998 to June 30, 1999.

Letters of intent should be submitted to:

Philip E. Martin, Ph.D.

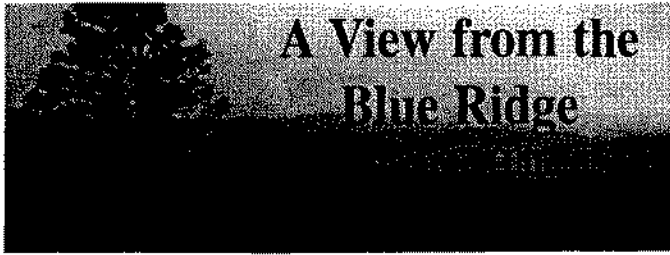
Dept. of Exercise Science & Physical Education
Box 870404

Arizona State University
Tempe, AZ 85287-0404

email: philip.martin@asu.edu

phone: (602) 965-1023

fax: (602) 965-8108



A View from the Blue Ridge

In his Guest Column in the last issue of the ASB Newsletter, Kit Vaughan tackled the issue of impact factors and their importance to researchers when considering where to submit their work for publication. This is a topic which seemingly affects everyone involved in biomechanics research. Therefore, in lieu of my usual editorial, I have chosen to reprint a follow-up article which continues this discussion and draws into question the method by which impact factors are determined. The article, which appears below, originally appeared in *Inside Information*, an Information Management and Computing publication from the University of Virginia Health Sciences Center, and is reprinted with permission.

My decision to take a break from writing a formal editorial for this issue (perhaps welcomed by some) conveniently coincides with a rather momentous occasion in my life. On June 4, my wife and I were blessed with the birth of our first child, Jonah Eugene. Jonah weighed 8 lb.-8 oz. and measured 22 inches at birth. Although probably of little interest to the majority of society members, I couldn't resist this opportunity to exercise my editorial license and share some personal news.

Please note that the deadline for the next issue of the newsletter is October 15. This new deadline will allow us to move the publication date up one month, from December to November. The primary motivation for this change is to facilitate earlier mailing of annual dues notices and hopefully avoid some of the problems that have been encountered in verifying membership status for journal subscriptions. A similar change in the timeline for the spring issue of the Newsletter is anticipated.

Finally, look for a change in the editorial space in the next issue of the Newsletter. I will be leaving the University of Virginia at the end of July for a new, but as yet undetermined, position. Although I intend to continue as the Newsletter editor, my "View from the Blue Ridge" will likely assume a different geographic perspective. Suggestions for a new heading are welcome!

Voodoo Bibliometrics?

Journal Impact Factor Scores May Be Misleading

The impact factor (IF) of a journal is defined [by The Institute for Scientific Information (ISI)] as the average number of citations given in a specific year to documents published in that journal in the two preceding years, divided by the number of "citable" documents published in that journal in those two years.¹

Impact Factor a Big Hit

No doubt about it, judging by the uses to which ISI's impact factor (IF) ranking for scientific journals is being put, the significance of the score has increased dramatically over the past decade. A spate of articles and letters-to-the-editor have appeared in journals such as *Lancet*, *Nature*, and *Anaesthesia* dealing with some aspect of the IF. Some libraries use the IF, which is published in *Journal Citation Reports* (JCR), to manage their journal collections; governmental and legislative bodies of many European Community countries use it to assess the performance of their research institutes and laboratories; scientific publishers use it as an indicator of journal performance; and individual scientists as well as selection and tenure committees use the IF to evaluate publications.

The IF Takes a Big Hit

But Moed and Van Leeuwen's citation analysis and critique of the IF scale published in the *Journal of the American Society for Information Science* (JASIS) highlights a little-known fact about the ranking that should give pause to any user, particularly before assessing the quality of a journal solely on the basis of its standing in the IF hierarchy.

Since the IF is based upon a little-publicized ratio—the total number of documents cited divided by the total number of "citable" documents—the numbers that go into the statistical mix of numerator (total documents) and denominator (citable documents), are extremely important. If certain types of documents are counted in the numerator but not in the denominator, rankings can be inflated. This is in fact what the authors of the JASIS article found: the IF values for a considerable number of journals in their study sample, including high-impact journals such as *Nature*, *Lancet*, *Annals of Internal Medicine*, and *New England Journal of Medicine*, were inflated by 30-40%.

The "Uncitables"

In the biomedical literature, letters, comments, and editorials—the "uncitables" in ISI's scheme of things—have varied impact. In some journals these document types are hardly cited, while in others, such as *Annals of Internal Medicine*, *Lancet*, and *New England Journal of Medicine*, their average citation rate is near that of "normal" articles.

The JASIS authors used ISI's citation analysis database, the *Integrated Citation File* (ICF), which is not publicly available, to study the citation and publication patterns of 20 top-ranked IF journals, selected from 16 subject categories. Their analysis led them to the conclusion that the cause for the inaccuracies in ISI's IF value lies in how ISI defines "citable." Citations to all document types such as letters, comments, and editorials are counted in determining the numerator (total number of documents) but, according to ISI's methodology, only normal articles, notes, and reviews are considered "citable" items that are included in the denominator of the ratio. When Moed and Van Leeuwen used ISI's ICF data to analyze what types of document were being cited in the journal sampling, they found that "uncitables" were in fact making an inordinate impact on the IF, and as a consequence, the IF ranking of a considerable number of journals is "misleading" as well as "inaccurate."

Using Document Type to Clarify Impact Factor

Is there some sort of statistical black magic that would improve the accuracy of this commonly used measure, that would more realistically assesses the scientific impact of a journal? The JASIS study suggests a ready solution. Take into account the subfield (JCR IF's are already categorized by subfields of medicine) and assign an impact factor to document types rather than assigning one single impact factor for a journal, as is currently the case in the JCR. Moed and Van Leeuwen note that this statistical clarification would go a long way toward making the IF conform with a basic principle of bibliometrics: statistical tools cannot be properly applied without obtaining background knowledge of the things being studied. A more meaningful IF results when scores are augmented with data from other sources.

¹ Moed, HF, and Van Leeuwen, ThN. "Improving the accuracy of Institute for Scientific Information's Journal Impact Factors," *J Am Soc Info Sci* 46(6):461-7, 1995.

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INSIDE.INFO@virginia.edu
<http://www.med.virginia.edu/hs-library/newsletter/3/97>

Sustaining Members

The sustaining membership category is aimed at encouraging affiliation by commercial organizations that market products which are used by the biomechanics research community, or companies that are otherwise engaged in activities that fall within the Society's general interest areas. We are happy to acknowledge and thank the following companies for their support as Sustaining Members:

Aircast

DePuy

Howmedica

Kistler Instrument

Motion Analysis Corporation

MTS Systems

Noraxon U.S.A

Orthofix, S.R.L.

Peak Performance Technologies

We invite all members of the Society to suggest names of potential sustaining members. Please send your suggestions to Trey Crisco, Membership Committee Chairperson, at the address indicated on page 4 of this newsletter. If you have a particular contact person at the company, please make sure to include his/her name.

ASB On-line

Visit the ASB home page at
www.usc.edu/dept/biom/asb.html

Job Opportunities in Biomechanics

FACULTY POSITIONS

Research Faculty (non-tenured) - The Vermont Back Research Center has an opening for a rehabilitation or ergonomic engineer, to plan, direct, and conduct biomechanical and rehabilitation engineering research to reduce back and spine injuries and disability. PhD in biomedical, industrial, rehabilitation, mechanical, or ergonomic engineering with knowledge of research design, methods, statistics, ethics, and publication. Send cover letter, curriculum vitae and references to: Vermont Back Research Center, Attention: Karen Kelly, Secretary, One South Prospect Street, Burlington, VT 05401

Biomechanics Faculty - Tenure or tenure-track position in Mechanical Engineering Dept. with specialization in Biofluids or Bioacoustics. PhD with strong commitment to undergraduate and graduate teaching and research required. Send CV, statement of interest, and 4 references to: L.D.T. Topoleski, Mechanical Engineering, ECS Room 326, Univ of Maryland-Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250

Research Director - Develop and supervise research programs and serve as collaborator and mentor for clinical faculty and residents in the Dept of Orthopaedics. Appointment at Asst/Assoc/full Professor level. PhD in Biomechanics, Bioengineering or related discipline. Send C.V., statement of interest and 4 references to: Thomas W. Wright, MD, Associate Professor and Chair of Search Committee, University of Florida, Dept of Orthopaedics, Box 100246 HSC, Gainesville, FL 32610 tel: 352-392-4251 fax: 352-392-8637.

Faculty Openings - Applications invited for position of Professor and Chair to lead development of new Department of Biomedical Engineering and at least two additional tenure-track positions at Asst/Assoc or full Professor level. Doctorate in traditional engineering discipline or related field required. Professor S. P. Suter, Chair, Search Committee, Washington University, Campus Box 1097, One Brookings Drive, St. Louis, MO 63130

Biomechanics Faculty - Full-time, tenure-eligible faculty to develop and maintain an independent, externally funded line of research and to teach biomechanics-related courses in the Physical Therapy programs. Doctoral degree in biomechanics and demonstrated excellence in academic

teaching and research required. PT degree is desirable, but not essential. Send CV with names/addresses of 3 references to: Lois Deming Hedman, MS, PT, Chairperson, Search Committee, Programs in Physical Therapy, Northwestern University Medical School, 645 North Michigan Avenue, Suite 1100, Chicago, IL 60611 tel: 312- 908-6782 fax: 312- 908-0741 email: l-hedman@nwu.edu

RESEARCH / DEVELOPMENT POSITIONS

Research Assistant - Immediate openings for Functional Product Testing Research Assistants to conduct mechanical and subjective tests on athletic footwear, apparel and equipment. BS (MS preferred) in Biomechanics, Biomedical Engineering or Mechanical Engineering with minimum of two years experience with human subject data collection, instrumentation, research protocols, experimental design and statistical analysis. Contact Phil Manfra, Reebok International Ltd., Stoughton, MA tel: 617-297-4965 fax: 617-341-7402 email: employment@reebok.com

Resource Development Specialist - Position involves developing new educational resources in the area of kinesiology and exercise science. PhD and min. five years' experience reviewing, writing, and editing scholarly publications required. Send cover letter and resume to Human Resources Manager, Human Kinetics, Post Office Box 5076, Champaign, Illinois 61825-5076 e-mail: annel@hkusa.com

Software Development Specialist - Conceptualize and design educational software in physical activity field. MS or PhD with 3 years experience in physical activity or education field required; experience developing educational software programs or an understanding of software design essential. Send cover letter and resume to Human Resources, Human Kinetics, P.O. Box 5076, Champaign, Illinois 61825-5076 email: annel@hkusa.com

Product Development Engineers - Orthopedic device manufacturer seeking development engineers responsible for product development from concept through production. CAD experience and familiarity with GMP preferred. BS in Mechanical Engineering with min. 2 years R&D product development experience with machined, cast, or forged medical devices. Mail or fax resume to: Director of Product Development, Alphatec Manufacturing, Inc., 42-160 State Street, Palm Desert, CA 92211 fax: 619-779-8257

Spinal Product Development Engineer - Responsibilities will include design and development of new/custom products, establishing effective working relationships with

neuro- and orthopaedic surgeons, and supporting sales efforts through publication of technical papers. BS in Mechanical engineering with min. 2 years R&D experience in the medical device industry. MS in Biomedical Engineering a plus. Send resume to: DePuy, Attention Mark Ardington, 700 Orthopaedic Drive, Warsaw, IN 46725

OTHER POSITIONS

Design Engineer - Responsible for mechanical design and engineering of manufacturing, testing, and R&D equipment and support of new product development. BS in mechanical engineering required. Minimum 5 years design experience preferred. W.L. Gore & Associates, Attn: Ref. #HC1286, P.O. Box 2400, Flagstaff, AZ 86003-2400 fax: 520-527-2280

Orthopedic Designer - Responsible for creating and updating documentation and drawings in support of R&D and Manufacturing efforts. Experience in mechanical manufacturing (preferably medical devices) environment and CADKEY/Pro-E helpful. Mail or fax resumes to: Encore Orthopedics, Inc., Attn: Human Resources Department, 9800 Metric Boulevard, Austin, TX 78758 tel: 512-832-9500 fax: 512-834-6300

Senior Engineer - Project leader for orthopedic device company developing innovative implants for modifying bone lengths and correcting complex fractures. Minimum BSME with 5 years experience in medical device industry; MS and/or bio-engineering degree, orthopedic and implant experience a plus. Send cover letter and resume to: Human Resources, Genesis Orthopedics, 169 Bent Street, Cambridge, MA 02141 fax: 617-576-6493

Manufacturing/Production Engineer - Support manufacturing set-up, launch and assembly of a proprietary and innovative surgical drill used for soft tissue attachment. Responsible for facility layout, process flow design, manufacturing equipment selection, tooling and fixture design, assembly procedures, operator training and production data control. Send resume and salary history to: Bioelectron, Inc., Attn.: Robert Weisbard, 200 Holt Street, Hackensack, NJ 07601 tel: 201-487-1838 fax: 201-487-5935

Application Engineer Biomechanics/Biomaterials - Engineer for European Bio market to handle customer inquiries, design system concepts, and present technical solutions. Training in electrical or mechanical engineering and/or biomechanics/biomaterials and German/English language skills required. Send written application to:

Rita Acevedo, Personnel Department, MTS Systems GmbH, Hohentwielsteig 3, 14163 Berlin, GERMANY tel: +49 30 810020 fax: +49 30 81002100 <http://www.mts.com>

NOTE: Applicants are strongly encouraged to contact the listing individual/institution directly to determine current status and obtain additional information.

Additional opportunities can be found on the ISB home page (<http://www.kin.ucalgary.ca/isb/jobs/jobs.html>) and on the Biomechanics World Wide home page (<http://dragon.acadiau.ca/~pbaudin/biomch.html>) by selecting Career Opportunities.

FACULTY POSITION IN BIOMECHANICS

University of Wisconsin-Madison

The Engineering Mechanics program, jointly with the Biomedical Engineering program, invites applications for a faculty position in biomechanics. Candidates are expected to teach biomechanics and engineering mechanics at the undergraduate and graduate levels, guide graduate student research in biomechanics, and participate in the expansion of the Biomedical Engineering program. The preference is for candidates at the Associate Professor or Professor level, but outstanding candidates at the Assistant Professor level will also be considered. Candidates must have Ph.D. in an appropriate engineering discipline or applied physics, a demonstrated record of research accomplishment, and be able to teach graduate level courses in some of the following areas: biomechanics, continuum mechanics, dynamics, elasticity, experimental mechanics, fluid mechanics, mechanics of materials. The position will be available starting with the fall semester, 1997. Send resume, names of three references, statement of research and teaching interests, and three reprints to Prof. Gilbert A. Emmert, Dept. of Engineering Physics, 1500 Engineering Drive, Madison, WI 53706 (tel: 608-263-1648, fax: 608-263-7451, e-mail: emmert@engr.wisc.edu). The Univ. of Wisconsin is an Equal Opportunity/Affirmative Action employer and encourages applications from women and underrepresented minorities.

Calendar of Events

18-19 July 1997 International Conference on New Frontiers in Biomechanical Engineering; Tokyo, JAPAN. Hiromichi Fujie, Ph.D., Conference Secretary, Faculty of Engineering Science, Osaka University, 1-3 Machikaneyama, Toyonaka, Osaka 560, JAPAN. Tel: 81-6-560-6172 Fax: 81-6-560-6212 e-mail: jared@me.es.osaka-u.ac.jp

31 July - 3 Aug 1997 7th Annual International Conference of the Society for Chaos Theory in Psychology & Life Sciences; Marquette University, Milwaukee, Wisconsin. William Sulis, M.D. Ph.D., 255 Townline Rd. E., RR5, Cayuga, Ontario, CANADA, N0A 1E0. Fax (to McMaster University): 905-521-7948 e-mail: sulisw@mcmail.cis.mcmaster.ca

7 - 9 Aug 1997 Interpreting the Vision; Annual Meeting of the Institute of Biological Engineering; Hyatt Regency Hotel, Minneapolis, MN. Tim Taylor, University of Missouri Tel: 573-882-0456 email: tim_taylor@muccmail.missouri.edu <http://www.bae.uga.edu/ibe/> or <http://gumbo.bae.lsu.edu/~jwells/IBE97/>

21-23 Aug 1997 VIth International Symposium on Computer Simulation in Biomechanics; The National Olympics Memorial Youth Center, Tokyo, JAPAN. ISCSB6, c/o Dr. Ae, Institute of Health and Sport Sciences, University of Tsukuba, Tsukuba City, Ibaraki 305 JAPAN. Tel: +81 298 53 2675 Fax: +81 298 53 6507 e-mail: ae@taiiku.tsukuba.ac.jp

21-23 Aug 1997 Symposium on Footwear Biomechanics: ISB Working Group on Functional Footwear; Tokyo Metropolitan University, Tokyo, JAPAN. Martyn R. Shorten, Ph.D., 2835 SE Tolman St., Portland OR 97202-8752, USA. Tel: 503-774-7855 Fax: 503-774-7868 e-mail: biomech@teleport.com <http://www.teleport.com/~biomech/tokyo97.html>

24-29 Aug 1997 XVIth ISB Congress; Tokyo, JAPAN. S. Fukushima, Congress Secretary <http://idaten.c.u-tokyo.ac.jp/ISB97/isb97.html> or <http://www.komaba.ecc.u-tokyo.ac.jp/~ckawa/isb97.html>

31 Aug - 5 Sept 1997 International Research Society of Orthopaedic Surgery and Traumatology (SIROT) '97 Haifa Inter-Meeting; Haifa, ISRAEL. SIROT, P.O. Box 29041, Tel Aviv, 61290, ISRAEL. Tel: +972 3 5175150 Fax: +972 3 5175155

14-19 Sept 1997 World Congress on Medical Physics and Biomedical Engineering; Nice (French Riviera). NICE'97-SEE-General Secretariat, 48 rue de la Procession, F 75724 Paris Cedex 15, FRANCE. Fax: +33 1 44 49 60 44 e-mail: nice97@univ-paris12.fr

24-27 Sept 1997 21st Annual Meeting of the American Society of Biomechanics; Clemson, South Carolina. Vasanti M. Gharapuray, Department of Bioengineering, Clemson University, 501 Rhodes Research Center, Clemson, SC 29634-0905. Tel: 864-656-5556 Fax: 864-656-4466 e-mail: vasanti@ces.clemson.edu <http://www.ces.clemson.edu/bio/1997asb.html>

25-28 Sept 1997 1st International Scientific Congress Kinesiology - Present and Future ; Dubrovnik, CROATIA. Kresimir Kristic - Conference Secretary, Faculty of Physical Education, 10000 Zagreb, Horvacanski zavoj 15, CROATIA. Tel: +385 1 336822 Fax: +385 1 334146

29 Sept - 2 Oct 1997 International Congress on Motion Systems/Biomechanic Workshop of the Morphology Studygroup of the Deutschen Zoologischen Gesellschaft/ Workshop of the Society for Technical Biology and Bionics; Jena, GERMANY. Prof. Dr. R. Blickhan, Friedrich-Schiller Universitat, Jena, Institut fur Sportwissenschaft, Seidelstr. 20, 07749 Jena, GERMANY. Tel: 49 3641 630100 Fax: 49 3641 630109 email: Marion.Gerhardt@uni-jena.de

2-5 Oct 1997 1st International Symposium on Advanced Biomaterials; Montreal, Quebec, CANADA. Secretariat - SIBA, Maryam Tabrizian, Ph.D., Bureau des congres, Ecole polytechnique de Montreal, C.P. 6079, Succursale Centre-ville, Montreal, Quebec, CANADA H3C 3A7. Tel: 514-340-3215 Fax: (514) 340-4440 e-mail: bureau.congres@mailsrv.polymtl.ca http://www.grbb.polymtl.ca/siba97_a.htm

16-21 Nov 1997 International Mechanical Engineering Congress and Exposition: ASME Winter Annual Meeting; Dallas, TX; ASME Conference Office, 345 E. 47 Street, New York, NY 10017. Tel: 800-843-2763 Fax: 212-705-7841 <http://www.asme.org/conf/congress97/index.html>

2-5 Dec 1997 People & Health. Medical and Social Rehabilitation of Disabled; St. Petersburg, RUSSIA. Organizing Committee of People & Health, PO Box 204, St. Petersburg, RUSSIA 191025. Tel: 7-812-279-6082

Fax: 7-812-279-7664 e-mail: ph@smit.spb.su Abstracts due 1 July.

3-6 Dec 1997 9th International Conference on Biomedical Engineering; Singapore; Ontako Conference Secretariat, Block 9, Kallang Place, #04-09, Singapore 339154. Tel: 65-295-2822 Fax: 65-295-2181 <http://www.nus.sg/Seminars/1home.htm>

22-25 Jan 1998 16th Annual Injuries in Baseball Course, Birmingham, Alabama. Judith Gold, Director of Administration, American Sports Medicine Institute, 1313 13th Street South, Birmingham, Alabama 35205. Tel: 205-918-2135 Fax: 205-918-0800

24-30 Jan 1998 International Biomedical Optics Symposium, San Jose, California. SPIE International Headquarters, P.O. Box 10, Bellingham, WA 98227-0010. Tel: 360-676-3290 Fax: 360-647-1445 e-mail: PW98@spie.org (e-mail) <http://www.spie.org/info/pw/> (web). Abstracts due 30 June 1997.

28-30 Jan 1998 2nd Australasian Biomechanics Conference; The University of Auckland, Auckland, NEW ZEALAND. Patria Anne Hume, Lecturer, Biomechanics, Sport & Exercise Science Department, University of Auckland - Tamaki Campus, Private Bag 92019, Auckland, NEW ZEALAND. Tel: 649 373 7599, ext 6859 Fax: 649 373 7043 e-mail: p.hume@auckland.ac.nz Abstracts due 1 Aug 1997.

16-18 March 1998 44th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA. Orthopaedic Research Society, 6300 N. River Road, Suite 727, Rosemont, IL 60018-4226.

21-26 June 1998 XIIIth U.S. National Congress of Theoretical and Applied Mechanics; University of Florida, Gainesville, Florida, USA. Prof. M. A. Eisenberg, AeMES Dept., University of Florida, PO Box 116250, Gainesville, Florida 32611-6250. Tel: 719 333 4034 Fax: 352 392 7303 e-mail: meise@eng.ufl.edu

27-30 June 1998 XIIth Congress of the International Society for Electrophysiology and Kinesiology (ISEK); The Queen Elizabeth Hotel, Montreal, Quebec, CANADA. ISEK Secretariat, Conference Office, McGill University, 550 Sherbrooke St. West, West Tower, Suite 490, Montreal, Quebec, CANADA H3A 1B9. Tel: 514 398 3770 Fax: 514 398 4854 email: isek@ums1.lan.mcgill.ca <http://www.mcgill.ca/mco>

28 June - 1 July 1998 1998 Meeting of the International Research Society of Spinal Deformities; Burlington, Vermont, USA (Pre-meeting Workshop in Montreal on Clinical Applications of 3-D Evaluation of Scoliosis, 27 June). Ian A. Stokes, Ph.D., University of Vermont, Department of Orthopaedics and Rehabilitation, Burlington, VT 05405-0084, USA. Tel: 802 656 2250 Fax: 802 656 4247 e-mail: irssd@med.uvm.edu <http://salus.med.uvm.edu/~irssd/1998.htm>

8-11 July 1998 11th Conference of the European Society of Biomechanics; Paul Sabatier University, Toulouse, FRANCE. ESB98, Boite Postale 3103, 31026 Toulouse Cedex, FRANCE. Tel: +33 561 778284/+33 562 748359 Fax: +33 561 319752 email: ESB98@purpan.inserm.fr <http://esb.purpan.inserm.fr>

21-25 July 1998 Symposium of the International Society of Biomechanics in Sports; University of Konstanz (GERMANY). ISBS'98 Secretariat, Department of Sports Science, Lehrstuhl Riehle, P.O.Box 5560 D30, 78434 Konstanz/GERMANY. Tel: +49 7531 883565 Fax: +49 7531 884221 e-mail: isbs98@uni-konstanz.de <http://www.isbs98.uni-konstanz.de>

2-8 Aug 1998 The Third World Congress of Biomechanics; Hokkaido University, Sapporo, JAPAN. Kozaburo Hayashi, Osaka University; Biomechanics Laboratory, Department of Mechanical Engineering, Faculty of Engineering Science, Osaka University, Toyonaka, Osaka 560, JAPAN. Tel: +81-6-850-6170 Fax: +81-6-850-6171 e-mail: office@wcb98.me.es.osaka-u.ac.jp <http://wcb98.me.es.osaka-u.ac.jp/>

14-19 Aug 1998 3rd North American Congress on Biomechanics; University of Waterloo, Ontario, CANADA. Stuart McGill email: mcgill@healthy.uwaterloo.ca

8-13 Aug 1999 XVIIth Congress of the International Society of Biomechanics; Calgary, CANADA. Secretary General, 1999 ISB Congress, Faculty of Kinesiology, University of Calgary, 2500 University Drive N.W., Calgary, Alberta, T2N 1N4 CANADA. isb99@kin.ucalgary.ca

From the Secretary/Treasurer

Joan Bechtold

Summer is upon us again. After this winter, I don't think I'll even complain about the mosquitos!

With this mailing, you will find a ballot. There are 3 choices for you to make; please take the time to read about our excellent slate of candidates for President-elect and Program-chair Elect, and consider formalizing our proposed new Communications Committee. In addition, we are soliciting your input on how to improve the way ASB meets your, the member's, needs. Please answer the few questions on the ballot, to give the Executive Board feedback and guidance. (Remember, our time management techniques tell us to touch every paper only once. So, don't put this away to do "later", unless you truly need more time to deliberate our excellent choices.)

New officers — Send in your ballot

The candidates for President-Elect are Andrew Biewener and Bruce Martin and for Program Chair-Elect are Tom Buchanon and Ken Kaufmann. Biosketches for each of the candidates are presented on page 16.

For 1997, the ASB Nominating Committee consists of: Dave Burr (Biology), Eileen Fowler (Health), Richard Hughes (Ergonomics), Keith Williams (Exercise), Kai-Nan An, Chair (Engineering).

New Board-level Communications committee

Send in your ballot. As Bob Gregor has outlined in his Presidential column, a Communications committee has been proposed to add to the Executive Board. It will have the responsibilities of overseeing the ASB Home Page, publication of proceedings, electronic publishing, and related matters. Bob Gregor has outlined more fully the Board's reasoning in establishing this committee.

ASB By-Laws require ratification by the membership to formalize this committee and officially establish it. Please vote for this committee on your ballot.

Developments with Elsevier

We are evolving a very close and productive relationship with Elsevier, and several new projects are in the conceptualization and planning stages. We are working to formalize a contract between Elsevier and ASB. As you are aware, to receive our low subscription price, ASB members must subscribe to the *Journal of Biomechanics*, unless they

receive it through another organization. However, since the price is so low, any cost increases Elsevier incurs usually need to be passed on to our members. In the recent past, the price has been raised incrementally almost annually. Last year, we were fortunate that Elsevier agreed not to implement their proposed price increase, with the intent of formalizing our relationship and stipulating conditions for future price increases. We probably have to live with some price increases, but our intent is to minimize their amount and frequency (sounds like a biomechanics optimization problem to me!).

Second, we are exploring the potential for alternative/additional formats for producing our proceedings. Currently we have our traditional paper Transactions volume, and Gerry Smith inaugurated our electronic versions on the ASB Home Page. Elsevier is proposing additional formats, and we are looking forward to the potential for increasing the distribution and knowledge dissemination, and the impact of our proceedings.

And, as you saw on your renewal notice, Elsevier has made available to our members several new journals at reduced prices. This is a pilot project, and seems to be going fairly well so far. Your feedback on this service is welcome.

FINANCES

As of the end of 1996, the ASB funds balance (including Checking, Cash Reserve, Stock Market Certificates, and Mutual Funds) was \$98,380.65. Along with the general trend in the stock market, our investments continue to bring a high rate of return (17% total return on our invested money).

This high rate of return allows us to finance the excellent educational, grant and award-related activities of ASB (described in more detail elsewhere in this newsletter). In addition, our recent meetings have been very well-managed, and we have been fortunate to have received very generous outside funding from the Whitaker Foundation, and from our Corporate sponsors.

MEMBERSHIP

Our membership has reached 750, and is rising, thanks to Trey Crisco's efforts. Our disciplines are represented in the following percentages: Engineering and Applied Physics (51%), Exercise and Sports Science (17%), Health Science (14%), Ergonomics/Human Factors (8%), Biological Sciences (7%), and not specified (3%). Women comprise 20% of the total membership.

Please continue to contact me with any mailing or journal problems. Please feel free to contact me if you have missed journals, or are having other problems with your membership; I want to make sure that your membership is processed smoothly. Carol Schutte continues bravely as my very able assistant, and she handles much of the membership data base (if I can't help you, chances are that she can). My email is joan.bechtold@co.hennepin.mn.us, and hers is carol.schutte@co.hennepin.mn.us.

Just a note: several of our members have reported delayed receipt of their spring Journals. This seems to be sporadic but system-wide, and Elsevier assures us that all is in order, and some members have received bulk shipments of April/May/June. Overseas shipping often is the culprit for our delays. If you have individual questions on your subscription, please either contact me, or in North America, contact Elsevier Customer Support directly at 1-888-437-4636, or email at: journals@elsevier.co.uk. If you e-mail Elsevier, please copy me and/or Carol on your message. I am happy to help in any way.

REMINDER: Please VOTE, and return your ballot. (I'm not even asking for money, so please refold your ballot so the return address shows, seal it, and send it! The Society thanks you).

Students' Corner

Sheila Stevens

One of the things that has impressed me the most about ASB is the society's continued dedication to the student membership. This is evidenced by the great programs such as the Grant-in-Aid program, the Pre-Doctoral research award, and reduced conference fees for students at the Annual Meeting. It was equally impressive that the 1996 Borelli awardee, Al Schultz, generously donated his honorarium with a request that the funds be spent to benefit the student members. The award was "sweetened" when the ASB executive council decided to match his donation.

Feedback from current student members (via the asb-students listserver) resulted in an overwhelming preference to spread the benefits of the award beyond one lucky winner. Based on this feedback and a suggestion from Dr. Schultz, all student members of ASB are eligible to apply

for eight \$250 awards to fund travel expenses to the 1997 Annual Meeting in Clemson, SC. To apply for an award, student members must submit a "Letter of Purpose" (approximately one page) which states the need for funding, reasons for attending the annual meeting, and an overview of his/her area of study. A letter from the student's principal advisor stating a lack of other (travel) funding sources is also required. All applications should be sent to Dr. Kai-Nan An, Mayo Clinic Orthopaedic Biomechanics Lab, Rochester, MN 55905. Applications must be received by August 1, 1997. Winners will be notified by August 15, 1997. Preference will be given to students who are an author for a poster or podium presentation. If you have questions about the award or application process, please contact me via email (sheila@bones.stanford.edu).

As of November, 1996, a listserver has been established for ASB student members. To subscribe, send a message to majordomo@lists.stanford.edu with the following message: subscribe asb-students. Once you have subscribed, you may post messages to the entire list. Currently 90 students are subscribed, and the list has served as a great way to convey information and collect student input on a variety of topics. The list was also a means of organizing an ASB student get-together at the 1997 Orthopedic Research Society Meeting in San Francisco. I am hopeful we can coordinate additional student mixers at other meetings where biomechanics types cross paths.

As the 1997 Annual Meeting approaches, I would like to encourage all student members to attend if possible. Apply for a travel award! We will elect a new student representative at the Student Luncheon. If you are interested in this position, please let me know and I can fill you in on all of the details. I personally have found this to be a unique chance to see how the society operates, to gain insight on the society's goals and objectives, and to contribute ideas and perspective that only a student can. In addition, every once in awhile, as Student Representative, you can provide "vision" for the society: if you have excellent eyesight and can read really small numbers on meeting room thermostats!

Finally, a reminder for all students who are also job-seekers. I maintain a listing of job announcements from industry, research and academia originating from various sources. If you would like to be on my list of monthly recipients, send me an email with your request.

Hope to see you at Clemson!

PRESIDENT-ELECT CANDIDATES

ANDREW BIEWENER

Andrew A. Biewener received his Ph.D. degree in Biology from Harvard University in 1981. He also received his M.A. in Biology at Harvard University and had previously attended Duke University where he received his B.S. in Zoology. Dr. Biewener currently serves as Professor and Chair of Organismal Biology and Anatomy and Professor in the Committee on Evolutionary Biology at The University of Chicago. His principle research interests are biomechanics, the evolution of musculoskeletal function, locomotion, and adaptive skeletal remodeling. Dr. Biewener has been an active member in the ASB in which he has served on the Program Committee during 1984 through 1986, and again in 1992 through 1993. He also served as Program Chair (1992-1993) for the 17th Annual Meeting of the ASB at the University of Iowa, and also on the Membership Committee from 1986 through 1988. Other professional activities include participation on the Editorial Board of *Physiological Zoology*, the *Journal of Experimental Zoology*, and *Acta Anatomica*. Dr. Biewener's society memberships include: American Association for the Advancement of Science, American Society of Biomechanics, American Physiological Society, International Congress of Vertebrate Morphology, Orthopaedic Research Society, Society for Comparative and Integrative Biology, and the Society for Experimental Biology. Dr. Biewener was awarded the Mellon Fellowship at the University of Chicago. His scholarly research activities include over 50 research articles, reviews, book chapters, and books.

BRUCE MARTIN

Bruce Martin received his Ph.D. in Theoretical and Applied Mechanics from West Virginia University in 1970. He subsequently joined the Orthopaedic Department in the School of Medicine at West Virginia University, where he directed the research laboratory until 1984. Since then he has been Professor and Research Director in the Department of Orthopaedic Surgery at the University of California at Davis School of Medicine. He is also a member of the Biomedical Engineering Graduate Group at UC Davis. His principal research interests are bone remodeling processes and the relationships between structure and mechanical function in bone. Dr. Martin has been a member of the NIH orthopaedics study section and is deputy editor for the *Journal of Orthopaedic Research*. He was a founding member of the ASB in 1977 and served as Secretary-Treasurer from 1986-89. He also served on the Membership Committee from 1984-86 and was local arrangements chair for the 1987 meeting. Other ASB duties have included participation on the Awards Committee from 1989 to 1990 and Session Chairperson for multiple years. He has been Principal Investigator on numerous grants including one on The Effects of Weightlessness on Bone Mineralization and another on Repair of Fatigue Damage by Remodeling. In addition, Dr. Martin has authored/co-authored 100 publications.

PROGRAM CHAIR CANDIDATES

THOMAS BUCHANAN

Thomas S. Buchanan has a Ph.D. in Theoretical & Applied Mechanics from Northwestern University and does research in the field of neuromuscular biomechanics. He did post-doctoral work at MIT in the Department of Brain and Cognitive Sciences and at Northwestern University in Rehabilitation Medicine. He subsequently served on the faculty of Northwestern University Medical School with appointments in the Departments of Physical Medicine & Rehabilitation and Biomedical Engineering. During his seven years as Associate Director of the Sensory Motor Performance Program at the Rehabilitation Institute of Chicago, he was appointed Falk Medical Research Scholar. He is currently an Associate Professor of Mechanical Engineering at the University of Delaware and is also on the faculty of the Biomechanics and Movement Sciences Program. He is the recipient of several NIH grants as well as several grants from private foundations such as the Arthritis Foundation. He is a member of the Editorial Board of the *Journal of Applied Biomechanics* and is a reviewer for numerous journals in the fields of biomechanics and neuroscience. Additionally, he has served as a grant reviewer for the NIH, NSF and the VA. He is the author of over sixty publications, many in peer-reviewed journals. Since 1991 he has actively participated in ASB meetings and currently is a member of the ASB Research Review Committee which reviews grant proposals for the new Graduate Student Grant-In-Aid Program.

KENTON KAUFMAN

Kenton Kaufman received his Ph.D. in biomechanical engineering from North Dakota State University in 1988. He was employed as an Ass't. Prof. at NDSU from 1976-86. From 1986-89, he worked as a Visiting Scientist and Research Fellow in the Biomechanics Laboratory at Mayo Clinic. From 1989-96, he served as the Director of Orthopedic Research in the Motion Analysis Laboratory at Children's Hospital in San Diego. Currently, he is the Co-Director of the Biomechanics Laboratory and Assoc. Prof. of Bioengineering in the Department of Orthopedics at the Mayo Clinic. Dr. Kaufman's research focuses on the biomechanics of human movement. He currently holds grants from NIH and DOD. He has projects aimed at improving the mobility of disabled individuals and has also been conducting research to decrease overuse injuries in military recruits. He has won several awards for his research efforts, including the ASB Young Investigator Award (1989), the Excellence in Research Award (1989) and the O'Donoghue Sports Injury Research Award (1993) from the American Orthopedic Society for Sports Medicine, and the Clinical Research Award from the American Academy of Orthopedic Surgeons (1996). Dr. Kaufman has also served the biomechanics community as a member of NIH Special Review Committees (1993, 1995), the Working Group on Injury Prevention of the Armed Forces Epidemiological Board (1994-95), and currently serves as the Chairman of the Ad-Hoc Subcommittee on Gait Modeling of the North American Society for Gait and Clinical Movement Analysis.

