



American Society of Biomechanics Newsletter

Vol. 9

June, 1996

No. 1

From the President

Kai-Nan An

Greetings from tropical Minnesota. Spring of 1996 finally arrived here in May, and it appears that all of you had an enjoyable and productive winter based on the large number of abstracts submitted for the coming annual meeting. Bob Gregor and his colleagues at Georgia Tech are working hard to prepare an exciting annual meeting for the society on October 17 - 19 at the GIT campus in Atlanta. In the meantime, Dave Fyhrie and the members of the program committee are reviewing close to two hundred abstracts as well as finalizing the scientific program.

In regards to the annual meeting, we owe a debt of appreciation to Gary Beaupre and his colleagues for their fine and conscientious work in organizing and providing an excellent 1995 meeting. His careful attention to costs have yielded ASB a final income of more than \$15,000. Special thanks are also due to the Whitaker Foundation, NASA, the Veterans' Administration, and our industrial sponsors for their generous financial support of the society.

To oversee the society's assets and growing financial strength, we have established a Budget and Finance Committee chaired by the Secretary-Treasurer. The committee is working hard with a commercial investment advisor to optimize our financial management. More importantly, the committee is working on professionally investing our current assets in order to achieve some financial stability through fiscal and professional growth. In addition to our existing scientific awards, travel fellowships and tutorial lectures, the Grant-in-Aid (GIA) for Graduate Student Grant Program has been proposed and reviewed by the Executive Board. More information about this grant opportunity appears elsewhere in this issue of the newsletter.

The society's membership continued to grow steadily in 1995. Typical of past years, the highest growth was in the Engineering/Applied Physics discipline with Health Sci-

ences and Exercise/Sports Sciences, Biological Sciences and Ergonomics having fewer applications. The society is striving to have better balance among its five disciplinary categories and I encourage each of you take time to introduce a colleague to our society and the numerous individual as well as professional benefits of membership. No matter what scientific discipline you represent, I hope that the ASB annual meeting serves as the ultimate place to consider presenting and discussing your biomechanics-related research work.

It is healthy for our society to have professional interactions with other professional groups with common interests. Currently ASB has representatives to both Clinical Biomechanics and Journal of Biomechanics; U.S. National Committee on Biomechanics, World Congress on Biomechanics and the American Institute of Medical and Biological Engineering. I have encouraged each of these representatives to make any important and pertinent issues available to our member through this newsletter. In return, if you have any concerns or ideas related to these affiliated organizations, please feel free to contact each of the representatives or myself.

For the selection of a 1997 meeting site, four well prepared proposals were submitted and it has been a difficult task to make the final decision. At the mid-year meeting, the Executive Board voted to select Clemson University to host our 1997 annual meeting, with Vasanti Gharpuray as the meeting chairperson. However, the society greatly appreciates the support of the other three groups for their consideration of hosting the meeting and hopes they will still consider such support in the future years. In 1998, the third North American Congress on Biomechanics (NACOB) meeting will be held on August 14-19 at University of Waterloo, Ontario, Canada.

Finally, I encourage you to contact me with any suggestions you may have to better improve the function and effectiveness of our society. I hope to see you all in Atlanta this October.

From the President-Elect

Robert Gregor

Final arrangements for the 1998 NACOB Meeting have been settled with the University of Waterloo serving as host. The meeting will be held from August 14th to 19th, 1998 on the campus of the University of Waterloo, Waterloo, Ontario, Canada. Stu McGill will be the Co-Chair from the Canadian Society of Biomechanics with the "soon to be elected" 1998 Program Chair serving as Co-Chair from the ASB. Any information requests at this early stage can be directed to Stu McGill (mcgill@healthy.uwaterloo.ca).

1996 Meeting at Georgia Tech:

Plans are progressing very well for this year's Annual Meeting on the campus of the Georgia Institute of Technology. A total of 189 abstracts have been submitted for review and twelve separate free communication sessions have been planned. The current meeting schedule includes:

1) Four separate tours on Thursday morning, October 17th to include Mechanical and Bioengineering labs on the campus of Georgia Tech studying cell biomechanics and fluid dynamics, the College of Computing at Georgia Tech and their simulation and animation labs in the Graphics Visualization & Usability Center, the Interactive Media and Technology Center at Georgia Tech studying surgical simulation and sport animation, and the Departments of Physiology, Anatomy and Rehabilitation at Emory University studying the neural control and biomechanics of movement ranging from motor unit recruitment strategies to rehabilitation and balance control in humans.

2) Two tutorial sessions on Thursday afternoon, October 17th, by Clint Rubin, SUNY Stonybrook, speaking on the "Biology, Physiology and Morphology of Bone" and Scott Tashman from Henry Ford Hospital speaking on "Filtering on Kinesiological Data: A Biomechanical Perspective."

3) A Keynote lecture on Friday, October 18th, by Bruce Beynnon from the University of Vermont discussing the "Biomechanical Behavior of the Knee Ligaments In Vivo"

4) A Keynote Symposium of Friday to include Robert Nerem from Georgia Tech speaking on "The Regulation of Cell Structure & Function by Physical Forces" and Steve Goldstein from the University of Michigan speaking on "Localized Gene Therapy for Bone Repair."

5) A Keynote Lecture on Saturday, October 19th by Dave Burr of Indiana University speaking on "Biomechanical Behavior of Cortical Bone."

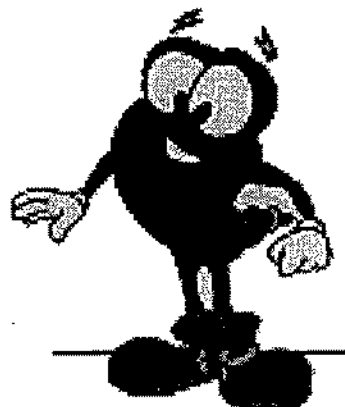
6) A Banquet/Buffer on Friday evening at the Jimmy Carter Center and Museum.

7) And for the first time in the history of the Society there will be a Satellite Workshop at Emory University on Sunday, October 20th on "Biarticular muscles: Biomechanics and Neural Control." Speakers will include John Lawrence from the University of Kentucky discussing muscular function and 3-D musculoskeletal mechanics, Arthur Kuo from the University of Michigan discussing multi-DOF muscles, Jane Mcpherson from the Dow Neurological Institute discussing postural equilibrium and evidence for two decoupled controllers, and Boris Prilutsky from Georgia Tech discussing one- and two-joint muscles in static and dynamic tasks.

Registration packets are in the mail.



*See you
in Atlanta!*



ASB Official Representatives

The interests of ASB are officially represented to various boards and committees by members of the society. The names of these bodies and of our designated representatives (along with information on how to contact them) are listed below. To better inform the membership of new information or developments stemming from the society's relationship with these bodies, updates from our representatives will be included in this and future issues of the ASB Newsletter. (See articles by T. Brown, R. Brand, and M. Moeinzadeh in this issue.)

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USNCB Report M. Moeinzadeh

The U.S. National Committee on Biomechanics met at the AIMBE annual event in Washington, D.C. on March 10, 1996. Among the items on the agenda was the establishment of a formal relationship between the USNCB and the Annals of Biomedical Engineering, the journal of the Biomedical Engineering Society (BMES). Under the proposed collaboration, the USNCB will participate fully in the ANNALS activities to enhance the journal in all areas of biomechanics, but especially in the area of cellular and tissue biomechanics. Other items of interest included a decision by the USNCB to serve as a co-sponsor for the 3rd World Congress to be held August 3-8, 1998 in Japan, and an update on the formation of the World Committee on Biomechanics. The next meeting of the USNCB will be held Thursday, November 21, 1996 in Atlanta.

ASB New Member of AIMBE

Tom Brown

On March 10th ASB was welcomed as the 15th member society of the American Institute of Medical and Biological Engineering (AIMBE) Council of Societies (COS). Total membership in AIMBE member societies currently totals 33,000. AIMBE maintains an office in Washington (3 blocks from the White House), and serves a role as government liaison for the member societies on subjects of interest. Current legislative involvement includes the biomaterials availability crisis and procedural reform within the FDA. AIMBE coordinates expert testimony before congressional committees when bioengineering issues arise, and they coordinate efforts to keep legislators aware of concerns within the bioengineering community. Recently, for example, an AIMBE delegation met with Speaker Gingrich. AIMBE is also active in playing an advocacy role with officials from federal agencies which fund research in bioengineering and biomechanics, most notably NIH and NSF. Affiliation with AIMBE gives ASB a channel of Washington communication that would not otherwise be available to a specialty organization of our size, and the AIMBE staff stands ready to assist ASB in any way possible to make its concerns known within the federal government. Reciprocally, AIMBE seeks to have individual members of its constituent societies assist in matters of public policy advocacy at the local, state, and federal levels.

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Guest Columnist

Cheryl A. Coker, Ph.D.

Collaboration = Elaboration of Understanding

Understanding the process of learning complex movement patterns and sequences involving multiple degrees of freedom has long occupied movement scientists. Furthering that understanding will assist movement educators in designing effective instructional strategies and environments that will enable learners to reach higher levels of performance. Just as the independent anatomical systems of the body must collectively function to constitute a healthy organism, the sub-disciplines of physical education must unite to unlock the mysteries of human motor learning.

As learners acquire motor skills, a change in movement pattern is likely (Hatze, 1971). It is therefore important to determine "if movement patterns change and what affects those changes" (Southard and Higgins, 1987). Until recently researchers in motor learning focused on movement outcomes rather than examining pattern changes and the factors that cause them. Wallace and Hagler (1979) speculated that "perhaps it is assumed that if the outcome of the movement is achieved, the movement produced is biomechanically correct". However, there are countless individuals who are biomechanically inefficient yet are able to produce the desired outcome. Consequently, it is difficult to thoroughly understand changes occurring as learners progress to more mature movement patterns when only outcomes have been examined, with emphasis on the production of force or on accuracy in terms of absolute changes, or changes in the variability of the motor output. To develop a complete understanding of the process of learning and the impact of various teaching strategies on improvements in performance, both the outcome of the movement and the movement pattern must be assessed.

In the past, subjective impressions of movement pattern changes have occasionally been reported by experimenters (e.g. Graydon and Townson, 1984). These subjective observations and interpretations, however, can only be considered as indirect evidence (Magill, 1993). A more accurate form of measurement is needed to assess changes in movement patterns throughout the learning process. Fortunately, 3-dimensional motion analysis can provide such a measurement system.

Researchers are realizing the benefits of collaborative efforts involving the motor learning specialist and the biomechanist. Using 3-D motion analysis, kinematic measurements of performance can be obtained to objectively evaluate movement pattern changes during skill acquisition. With the direct support of biomechanical analysis, a more thorough understanding of the variables that contribute to changes in performance as a learner progresses from novice to more advanced stages of movement is possible.

Integrating motor learning issues and biomechanical techniques can enhance our understanding of how performers find movement solutions that lead to improved performance. Working together, it will be possible to elaborate upon our understanding of the process of motor skill acquisition — the potential for discovery is limitless.

References

- Graydon, J.K. & Townson, J. (1984). Proprioceptive and visual feedback in the learning of two gross motor skills. *International Journal of Sport Psychology*, 15, 227-235.
- Hatze, H. (1971). Optimization of human motion. In S. Cerquiglini, A. Vernerando, and J. Wartenweiler (Eds.), *Biomechanics III*. Baltimore, MD: University Park Press. p. 138-142.
- Magill, R.A. (1993). Modeling and verbal influences on skill learning. *International Journal of Sport Psychology*, 24, 358-369.
- Southard, D., & Higgins, T. (1987). Changing movement patterns: Effects of demonstrations and practice. *Research Quarterly for Exercise and Sport*, 58 (1), 77-80.
- Wallace, S.A., & Hagler, R.W. (1979). Knowledge of performance and the learning of a closed motor skill. *Research Quarterly for Exercise and Sport*, 50 (2), 265-271.
- Dr. Cheryl A. Coker is an Assistant Professor in the Department of Physical Education, Recreation and Dance at New Mexico State University in Las Cruces, New Mexico. She received her Ph.D. from the University of Virginia in 1995 (under the advisement of Dr. Kit Vaughan) and currently teaches motor learning and physical education. Her email address is ccoker@nmsu.edu.*

Letter from the Journal of Biomechanics Editor

Richard Brand

As Co-editor of the official organ of the American Society of Biomechanics, I wish to call your attention to several important issues. The first relates to the official contributions of each of the three affiliated societies (American Society of Biomechanics, European Society of Biomechanics, and International Society of Biomechanics). By agreement between the societies, the editors, and Elsevier Science Ltd, each society may contribute up to sixty pages of material per year. These pages come from our annual page budget (currently 1700 pages). The intent is to use these pages for peer-review material, such as award papers, keynote addresses, or other special manuscripts. Each society may select which material will be used.

The second issue relates to length restrictions on manuscripts. In the past few years the number of submissions has risen dramatically, but without a concomitant increase in pages published per year, and we receive far more manuscripts than we can publish. Accordingly, despite increasingly stringent acceptance criteria, our lag times between acceptance and publication have risen to over ten months (from a low of four months). Both the editors and publisher consider this unacceptable, which means we accept fewer current-length articles, or more but shorter articles; we are convinced our responsibility lies in the exposure of more, not fewer ideas. Therefore the editors and publisher agreed last year to be rather strict on length requirements. Currently published guidelines suggest a maximum length for an Original Article of 3000 words from Introduction through Discussion and including appendices (approximately 8-12 double-spaced manuscript pages using large, 12 point, font and 25 lines/page) and 8-10 figures and/or tables. Guidelines for a Technical Note suggest a maximum length of 1500 words (approximately 6-8 manuscript pages) and 4 figures and/or tables. We automatically return without review any manuscripts substantially longer than these guidelines.

A third issue relates to plagiarism. In the past few years, we have experienced several cases of plagiarism in submitted manuscripts, or become aware of plagiarism only after publication of a manuscript. No one would deny plagiarism plays no role in the scientific community, and is a reproachable practice. However, plagiarism takes many forms, and at times might be difficult to define and/or identify. Everyone would agree that copying whole paragraphs, or even whole sentences from the work of others without direct quotation and/or proper citation constitutes plagiarism. Even copying key phrases (if implying unique ideas) without appropriate citation

constitutes plagiarism. More difficult is the issue of using the ideas of others, particularly if not formulated in the manner of the original author; one encounters many ideas through many forums, and it is often difficult to even recall where one first encountered an idea.

Ideally, science is an open, tolerant community, and contributes to society in providing a search for truth through cooperative efforts (see, Bronowski, J., *The Value of Science*). We each learn from the other, and we each incorporate the relevant ideas of others in our own work. The responsibility of an author lies in knowing relevant literature well enough to give credit to an originator for any major idea, or even minor ideas or techniques when novel and not widely accepted. Any and all direct paragraphs or sentences must be quoted and cited; all key novel phrases must be cited, if not quoted. Reviewers must not use novel ideas of others to produce similar work until the manuscript in question is presented or published and therefore in the public domain; it would even be unfair (and unethical) to begin work based on such new ideas presented in a confidential way. Violators of confidential trust and other plagiarizers deserve censure in a manner appropriate to the violation and motivation.

A fourth issue relates to reviewing. Obviously, serving as a referee requires substantial time and effort, and takes the place of other activities. It is our view that those who submit and publish in peer-reviewed journals accept the obligation to review. Given we now receive roughly four times the number of submissions that we can publish, each submission is assigned to three referees, and each paper goes through one and commonly two revisions, it is not difficult to understand that we require many reviews (particularly considering virtually all papers require 1 or 2 resubmissions). Thus, most referees might expect to review multiple papers for each one they submit. We attempt to minimize the burden by maximizing the number of referees and by the avoiding assignments of more than one manuscript at a time to any given reviewer (although resubmissions are always assigned to previous referees). Currently we list over 600 referees, although many are quite specialized, and some in areas for material not commonly submitted. We trust you will understand referee assignment is a major task, and we hope all referees will treat requests for reviews much as they would expect their own manuscripts to be reviewed.

Finally, if the Journal appears to publish more papers in a few given areas than others, the differences reflect the submissions we receive and the peer review comments, rather than any philosophy to emphasize certain topics.

areas. We consider any submission fitting with our Aims and Scope and meeting our guidelines with equality.

We look forward to publishing the continuing investigations of members of the ASB, and appreciate your substantial efforts and contributions to the considerable review task. We encourage each member to submit appropriate work to the Journal of Biomechanics.

Education Committee Chair

Jill McNitt-Gray

1996 Tutorials Based on feedback acquired through completed Annual Meeting Evaluation Forms, the topics of the two tutorials for the 1996 Annual Meeting will be "Filtering of Kinesiological Data: A Biomechanist's Perspective and Biology", presented by Scott Tashman, Ph.D., Henry Ford Hospital and "Physiology and Morphology of Bone", presented by Clinton T. Rubin, Ph.D, SUNY Stony Brook. The tutorial on filtering will provide an overview of filtering techniques for processing human movement data. The emphasis will be on practical methods for selecting and implementing filters, based on understanding both the data and the application. The tutorial on bone will start at the cell level and will cover local and systemic factors which influence bone turnover, the composition and mineralization of the matrix, the architecture and material properties of the tissue, and the adaptive capacity of the skeleton. This overview is intended to provide an appreciation not only of the complexity of bone, but its success in meeting its wide ranging responsibilities. Tutorials for the 1997 meeting are currently being considered. Please send suggestions regarding topics or presenters to Jill McNitt-Gray, Education Committee Chair (mcnitt@usc.edu).

ASB Home Page The ASB Education Committee has established an ASB homepage on the world wide web. To access the ASB homepage go to <http://www.usc.edu/dept/biom/asb.html>. The contents include an introduction to the society and its mission, information regarding annual meetings including the Call for Papers and Author Instruction for the 1996 Annual Meeting in Atlanta, the ASB Newsletter, affiliations with biomechanics journals, awards, links to executive board members, list of past presidents and secretary/treasurers, and an email address to send comments or questions. We are working towards establishing as many functional links as possible to assist browsing between pages. For example, the ASB home page may also be accessed from the Biomechanics World Wide homepage

located at <http://dragon.acadiau.ca/~pbaudin/biomch.html> and the graduate program data base may be accessed by choosing (clicking on) Education in Biomechanics on the Biomechanics WWW page and clicking on Graduate Programs in Biomechanics. A special thanks to Brian Welch (ewelch@cwis.usc.edu), an undergraduate research assistant in the USC Biomechanics Lab, for creating and maintaining the ASB and Graduate Program web pages.

Publishing Accepted Abstracts for the 1996 ASB Meeting As described in the Call for Papers for the 1996 Annual Meeting, disks with abstracts have been requested from those authors interested in publishing their abstract as part of the ASB homepage. Gerry Smith from Oregon State University will coordinate this effort with Dave Fyhrie, Program Chair.

Graduate Program Data Base The Education Committee with the assistance of Julianne Abendroth-Smith has also converted the graduate program data base from Gopher to the web. To gain access to the graduate program data base page, go to <http://www.usc.edu/dept/biom/grad.html> or you may also click on Jill McNitt-Gray, Education Committee Chair under the Executive Board Member listing on the ASB home page or access through the Biomechanics WWW page as described above.

The ASB Graduate Program data base currently includes information from nearly 60 institutions regarding their graduate programs. Please visit the page and either update or add information regarding your graduate program. To update information or add information regarding your graduate program to the ASB homepage go to http://www.usc.edu/dept/biom/UPDATE_REQUEST.html or go to the graduate program data base page and click on request for updates or additions to the data base. An electronic form has been created to simplify transfer of information to the data base. Information regarding graduate programs has also been acquired from forms completed and submitted along with the Annual Meeting Evaluations. The data base is updated four times a year or when a significant number of requests have been made.

Sharing of Successful Laboratory Experiences Faculty and students in academic institutions have suggested the sharing of successful laboratory experiences in coordination with the ASB Education Committee and perhaps the ASB homepage. Sharing how you have successfully demonstrated/taught a biomechanical concept or principle may be of great service to both faculty and students. Contributions may be in text, digitized video, or data form. This idea is currently being developed and suggestions regarding interest and format should be submitted to mcnitt@usc.edu with a subject line of ASB Lab Ideas.

Calendar of Events

16-19 Jun 1996 The International Research Society of Spinal Deformities; Huddinge University Hospital, Stockholm, Sweden; Prof. John Sevastik, MD, PhD, Department of Orthopaedic Surgery, Karolinska Institute, Huddinge University Hospital, S.141 86 Huddinge Sweden; Fax. +46-8-7114292

25-29 Jun 1996 14th International Symposium of Biomechanics in Sport; Funchal, Madeira, Portugal; ISBS'96 - Secretariat, R da Alfandega, 78-5, 9000 Funchal, Portugal; Tel. 351-91-233229 Fax. 351-91-233249 e-mail: itma@dragoeiro.uma.pt

29-30 Jun 1996 International Summer School: Three-Dimensional Analysis of Human Movement; The Joseph Fourier University in Grenoble, France; Dr. Paul Allard, Ph.D., P.Eng., Permanent Secretariat, International Symposium on Three-Dimensional Analysis of Human Movement, Centre de recherche, Sainte-Justine Hospital, 3175 Cote Ste-Catherine, Montreal, PQ, H3T 1C5 Canada; Tel. 514-345-4740 Fax. 514-345-4801 e-mail: allardp@ere.umontreal.ca

1-3 Jul 1996 4th International Symposium on 3-D Analysis of Human Movement; Grenoble, France; Dr. Paul Allard, Ph.D., P.Eng., Permanent Secretariat, International Symposium on Three-Dimensional Analysis of Human Movement, Centre de recherche, Sainte-Justine Hospital, 3175 Cote Ste-Catherine, Montreal, PQ, H3T 1C5 Canada; Tel. 514-345-4740 Fax. 514-345-4801 e-mail: allardp@ere.umontreal.ca

1-5 Jul 1996 9th International Conference on Mechanics in Medicine and Biology; Ljubljana, Slovenia; ICMMB 96, A. Kregar, Cankarjev dom, Cultural and Congress Centre, Presernova 10, 61000 Ljubljana, Slovenia; Tel. +386 61 223 988, Fax. +386 61 217431 e-mail: icmmb@robo.fer.uni-lj.si

2-4 Jul 1996 The Engineering of Sport; The University of Sheffield, Sheffield, England; Dr S. J. Haake, Department of Mechanical and Process Engineering, The University of Sheffield, Mappin Street, Sheffield S1 3JD, UK; Tel. (0114) 282 5415 Fax. (0114) 275 3671 e-mail: S.J.Haake@sheffield.ac.uk

13-15 Jul 1996 Annual Meeting of the Institute of Biological Engineering; Phoenix, AZ; <http://www.bae.uga.edu/ibe>

21-26 Jul 1996 Bioartificial Organs Science and Technology; Nashville, Tennessee; Engineering Foundation, 345 East 47th Street, New York, NY 10017; Tel. 212-705-7836 Fax. 212-705-7441 e-mail: engfnd@aol.com

20-21 Aug 1996 9th Annual Symposium of the International Society of Technology in Arthroplasty; Amsterdam, The Netherlands; Scientific Secretariat: c/o Mrs. Marlies van Schaik, Orthopaedic Department, University of Nijmegen, P.O. Box 9101, 6500 HB Nijmegen, The Netherlands; Tel. +(31) 24 3613366 Fax. +(31) 24 3540555 e-mail: ortho_sec@mc01.azn.nl

21-24 Aug 1996 9th Canadian Society for Biomechanics Conference; Simon Fraser University, Burnaby, B.C.; Penny Southby, Conference Services, Halpern Centre Simon Fraser University, Burnaby, British Columbia, CANADA V5A 1S6 Tel. (604) 291-4910 or (604) 291-3649 Fax. (604) 291-3420 e-mail: conference_services@sfu.ca

23-25 Aug 1996 An International Conference: "Bernstein's Traditions in Motor Control"; The Pennsylvania State University, The Penn State Scanticon Conference Center Hotel, University Park, PA; Mark Latash, Ph.D., The Pennsylvania State University, Biomechanics Laboratory, University Park, PA 16802; Tel. (814) 863-5374 Fax. (814) 865-2440 e-mail: mll11@psu.edu To receive a brochure: 1-800-PSU-TODAY.

28-31 Aug 1996 10th Conference of the European Society of Biomechanics; Leuven, Belgium; 10th Conference of the European Society of Biomechanics, Katholieke Universiteit Leuven, Division of Biomechanics and Engineering Design, Dr. J. Vander Sloten, Celestijnenlaan 200A, B-3001, Heverlee, Belgium; Tel. +321 632 7096 Fax. +321 632 7994; e-mail: jos.vandersloten@mech.kuleuven.ac.be <http://www.mech.kuleuven.ac.be/bmgo/esb.html>

18-21 Sep 1996 The 5th Meeting of the International Society for Fracture Repair, Ottawa, ON Canada. ISFR-1996, Secretariat, 5004-501 Smyth Road, Ottawa, ON, Canada K1H 8L6. Tel./Fax. (613)737-8837.

3-5 Oct 1996 Midwest American College of Sports Medicine Fall Meeting; Pheasant Run Resort, St. Charles Illinois; Jim Pivarnik, Dept. of Physical Education and Exercise Science, IM Sports Circle Bldg., Michigan State University, East Lansing, MI 48824-1049; Tel. 517-355-4734 email: jimpiv@msu.edu.

9-12 Oct 1996 "Physical Regulation" Conference of the Society for Physical Regulation in Biology and Medicine; University of Chicago and the Midland Hotel, Chicago, IL;

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17-19 Oct 1996 20th Annual Meeting of the
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7-9 Nov 1996 2nd CAOS-SYMPOSIUM; Computer
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17-22 Nov 1996 ASME International Mechanical En-
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96 Bioengineering Division, S. Rastegar, Ph.D., Bioengi-
neering Program, Texas A&M University, College Sta-
tion, TX 77843-3120; Tel. 409-845-5532; Fax 409-847-
9005; E-mail: imece96@aggie.tamu.edu; [http://
www.tamu.edu:8000/~sr19/imece96-call.html](http://www.tamu.edu:8000/~sr19/imece96-call.html).

11-13 Apr 1997 34th Annual Rocky Mountain Bioengi-
neering Symposium; Dayton, Ohio; Rocky Mountain
Bioengineering Symposium, Dr. Hamed Benghuzzi,
Department of Health Sciences, University of Missis-
sippi Medical Center, 2500 N. State Street, Jackson, MS
39216, Tel. (601)-984-6324 Fax. (601) 984-6344 e-mail:
benghuzz.shrp@smtp.umsmed.edu; abstract by 1 Dec
1996

3-8 Aug 1998 The Third World Congress of Biome-
chanics; Hokkaido University, Sapporo, Japan; Biome-
chanics Laboratory, Department of Mechanical Engi-
neering, Faculty of Engineering Science, Osaka Univer-
sity, Toyonaka, Osaka 560, Japan; Fax. +81-6-850-6171

14-19 Aug 1998 3rd North American Congress on
Biomechanics; University of Waterloo, Ontario, Canada;
Stuart McGill (mcgill@health.uwaterloo.ca).



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Job Opportunities in Biomechanics

FACULTY POSITIONS

Asst/Assoc Professor of Mechanical Engineering - Ph.D. in mechanical engineering or closely related field with experience in design and manufacturing related to biomedical engineering. Contact: M. Anjanappa; Mechanical Engineering; Univ. of Maryland Baltimore County; 5401 Wilkens Avenue; Baltimore, MD 21228

Asst Professor in Exercise Science - tenure-track position beginning Aug 96; duties include teaching undergraduate and graduate courses, academic advising, and scholarly research. Contact: Dr. Patrick Tow, Chair; Dept of HPER; Old Dominion University; Norfolk, VA 23529-0196 tel: 804-683-4995 fax: 804-683-4270

Biomechanics/Biomaterials Faculty - tenure-track position for senior level faculty with experience in musculoskeletal biomechanics and injury prevention and control. Responsibilities include graduate student guidance and maintenance/ expansion of existing multidisciplinary research and teaching program. PhD in engineering or related field. Must be US citizen or permanent resident. Contact: Dr. Ernest Stokely; Department of Biomedical Engineering, BEC 256; University of Alabama at Birmingham; Birmingham, AL 35294-4461 tel: 205-934-8421 fax: 205-975-4919 email: stokely@atax.eng.uab.edu

Director of Sports Biomechanics Research - to develop and supervise research in mechanisms and prevention of musculoskeletal injuries. Ph.D. in engineering required. Contact: Robert Finke, Executive Director; Minneapolis Sports Medicine Center; 701 25th Avenue South, #150; Minneapolis, MN 55454

Faculty Position in Physical Therapy - full time, renewable, 9 month appointments as Clinical Asst Prof (Aug96) or Asst Prof (Jan97). PhD in physical therapy or related area. and eligibility for Wisconsin physical therapy licensure required. Contact: Barbara Morgan, PhD, PT; Chair, Physical Therapy Search Committee; 1300 University Avenue, 5175 MSC; Madison, WI 53706-1532 tel: 608-262-0013 fax: 608-263-6434

Asst/Assoc Prof in Physical Education/Sports Medicine - tenure-track or visiting faculty position to teach exercise physiology and kinesiology. Doctorate in Physical Education preferred, ABD acceptable. Contact: Dr. James I. Lankford, Chair; Division of Mathematical, Natural and Health Sciences; St. Andrews Presbyterian College; Laurinburg, NC 28352 email: jil@tartan.sapc.edu

RESEARCH/FELLOWSHIP POSITIONS

Research Assistant - to maintain orthopaedic implant retrieval program and conduct bone mechanics experiments related to skeletal fragility. B.S. in Biomedical Engineering or related field. Contact: Clare Rinnac, PhD (cmr10@po.cwru.edu) or Karl J. Jepsen, PhD (kjj2@falstaff.mae.cwru.edu) or send resume and references to: Human Resources (CR); Case Western Reserve University; 10900 Euclid Avenue; Cleveland, OH 44106-7047 fax: 216-368-4678

Graduate Assistantship - full-time one year internship position in Movement Science Lab. B.S. in bioengineering, biomechanics or related field of movement science. Contact: Nasreen Haideri, M.E.; Gait Lab Supervisor; Texas Scottish Rite Hospital for Children; 2222 Welborn St.; Dallas, TX 75219 tel: 214-559-7581 email: TSRHGAIT@ix.netcom.com

Graduate Research Assistant (PhD candidate) - assist in development of quantitative methods to evaluate alternative engineering design concepts in soft system knowledge issues. BS or MS in an Engineering field with emphasis in mechanical systems. To receive application forms, send a request to: gradprog@bae.uga.edu or contact: Brahm Verma, Ph.D.; Professor and Graduate Coordinator; Driftmier Engineering Center; The University of Georgia; Athens, GA 30602-4435 email: bverma@bae.uga.edu

Project Director - for a 2-year federally funded research project on overuse syndromes in post-polio survivors. Full time position with primary responsibility for project management, data analysis, and preparation of manuscripts. Doctoral degree in kinesiology, physical therapy, occupational therapy, bioengineering, or a related field required. Contact: John Whyte, M.D., Ph.D.; Director; Moss Rehabilitation Research Institute; 1200 W. Tabor Rd.; Philadelphia PA 19141 fax: 215-456-9514

Research Project - entry-level Master's student to explore biochemical aspects of a biomechanical problem related to diabetic foot disease. Two year program starting Jan97. Contact either Brian L. Davis, PhD; Dept. of Biomedical Engineering (Wb3); The Cleveland Clinic Foundation; 9500 Euclid Avenue; Cleveland, OH 44195 email: davis@bme.ri.ccf.org or Peter R. Cavanagh, PhD; CELOS; RM 10, IM Bldg; Penn State Univ; University Park, PA 16802 email: prc@ecl.psu.edu

Graduate Research Assistantships - several positions available for Fall 1996. Research emphasis on occupational biomechanics/industrial ergonomics. For more information visit our WWW site: http://www.eos.ncsu.edu/eos/service/ie/research/ergolab_res/ or contact: Dr. Gary A. Mirka; Department of Industrial Engineering; North Carolina

State University; Raleigh, NC 27695-7906 tel: (919) 515-6399 fax: (919) 515-5281 email: mirka@eos.ncsu.edu

Open Applicant Pool - temporary and part-time teaching and research positions. Areas of expertise include anatomy, biomechanics, exercise physiology, motor control, sports medicine, and exercise and sport psychology. Master's degree or higher is required. Send letter of interest and vita to Open Applicant Pool; Department of Exercise and Movement Science; 1240 University of Oregon; Eugene, OR 97403-1240 For more information call KJ Fairchild at (541)346-4107 or email kjf@oregon.uoregon.edu.

LECTURER/POST DOCTORAL POSITIONS

Post-Doctoral Research Assistantship in sports research or biomedical imaging. Please send a letter describing your interests and goals, a C.V., and a list of three references to: J.J. Trey Crisco, Ph.D.; Director Bioengineering Laboratory; Orthopaedic Research, SWP-3; Rhode Island Hospital; Providence, RI 02903 tel: 401-444-4231 fax: 401-444-4559 email: joseph_crisco_iii@brown.edu

Post-Doctoral Fellow in the area of joint injuries and reconstruction. Qualifications include Ph.D. in engineering and research skills in biomechanics. Must be US citizen or permanent resident. Opportunities exist for permanent scientific staff positions. Contact: Betsy Myers, Interim Director; Orthopedic Biomechanics Laboratory; Beth Israel Hospital RN-115; 330 Brookline Ave., Boston, MA 02215 email: brm@bihobl2.bih.harvard.edu

Post-Doctoral Biomechanical Rehabilitation Research Fellowship (Biomechanics Track) - emphasis on gait & balance, upper & lower extremity joint mechanics, kinematics & kinetics, musculoskeletal rehabilitation and movement disorders. PhD or equivalent training in rehabilitation. Must be U.S. citizen or permanent resident. Contact: Michele M. Merten; Mayo Clinic Department of Physical Medicine and Rehabilitation; 200 First Street, SW; Rochester, MN 55905 tel: 507-284-2946 fax: 507-284-0920 or Marjorie Johnson email: marjorie@mayo.edu

OTHER POSITIONS

Biomedical Engineer - for failure analysis and forensic engineering. PhD in Bio/Mechanical Eng with emphasis on biological systems and min 3 yrs experience in impact biomechanics. Contact: Richard Shearer; Director of Engineering; S.E.A. Inc.; 7349 Worthington-Galena Road; Columbus, OH 43085

Research Engineer - "seat comfort" research with automotive supplier of seating. BS in engineering (MS preferred) with background in biomechanics, ergonomics, engineering mechanics, and statistics. Contact: Bob Millman

at Autocruit; tel: 810-357-5373 fax: 810-357-5379 email: autojo19@autojo19.rabbit.net

Engineers - NIOSH, Division of Safety Research, Protective Technology Branch (PTB), located in Morgantown, West Virginia, has immediate openings for a Electronic Engineer, Biomedical Engineer (experience in instrumentation desired), a Safety Engineer (experience in biomechanics desired), and a Health Scientist/General Engineer (experience in computerized anthropometry research desired). For information contact: DHHS/Program Support Center, HRS, P.O. Box 5409, Rockville, MD, 20848-5409, tel: 301-443-0238. Technical inquiries may be made by contacting Dr. Hongwei Hsiao tel: 304-285-5981.

Physical Therapist - full or half-time position available for licensed Physical Therapist. The appointee will be required to provide both clinical expertise and research assistance to clinical staff, patients, and grant personnel. Master's or PhD (preferred) degree in physical therapy. Forward curriculum vitae to: Tom Dang, Manager of PDL; Assistive Technology/Rehabilitation Engineering Program; National Rehabilitation Hospital; 102 Irving Street, N.W.; Washington, D.C. 20010-2949 tel: 202-877-1498 TDD: 202-726-3996 fax: 202-723-0628 email: tdd1@mhg.edu

Gait Laboratory Kinesiologist - responsibilities include extensive involvement in clinical evaluation of patients; synthesis of kinematic, kinetic, electromyographic, and clinical data; and involvement as part of a developing research team. B.S. in kinesiology and two years experience in a clinical gait or biomechanics laboratory. Submit a resume and letter of intent to: James Kocot, Director of Human Resources; Shriners Hospital - Springfield Unit; 516 Carew Street; Springfield, MA 01104

Research Engineer - full-time position exploring promising technologies that can be transferred from military and space agencies to benefit persons with disabilities. MS or PhD degree (preferred) in bioengineering, mechanical, biomedical, or electrical. Forward curriculum vitae to: Tom Dang, Manager of PDL; Assistive Technology/Rehabilitation Engineering Program; National Rehabilitation Hospital; 102 Irving Street, N.W.; Washington, D.C. 20010-2949 tel: 202-877-1498 TDD: 202-726-3996 fax: 202-723-0628 email: tdd1@mhg.edu

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 Biomechanics World Wide home page (<http://dragon.acadiau.ca/~pbaudin/biomch.html>) by selecting Career Opportunities.

A View from the Blue Ridge

A Challenge to Act

For many of us, the opportunity to make a real difference in someone's life just doesn't come along every day. Particularly for those of us who do not interact with patients on a regular basis, we must be content in the knowledge that the benefits of our efforts will be realized in the long-term. While no one would argue that these activities are any less important or that they don't make a difference in a great many people's lives, we are typically not able to experience first-hand the results of our work.

Some of you may remember an inquiry that appeared on the BIOMCH-L listserver late last fall regarding a young woman who was in need of a replacement prosthetic leg. Brendalee lost her leg secondary to osteosarcoma in April 1981 at the age of 14. A transfemoral above-the-knee amputation was performed and subsequent rehabilitation and prosthesis fitting were provided at the NIH. In 1987, she was refitted, again the prosthesis and fitting were supplied by the NIH. All room and board were paid for by her church and family friends.

Brendalee is now 29 and the single mother of a two year old son. She supports herself and her son by working in a souvenir shop in Governors Harbor in Eleuthera, Bahamas. When her prosthesis again wore out last year, she had to resort to crutches for mobility, making her difficult life that much worse. On her meager budget, the cost of a new prosthesis was prohibitive. The NIH, although sympathetic to her situation, was unable to offer further assistance due to financial constraints of their own. Other attempts to secure assistance on Brendalee's behalf were also unsuccessful.

The appeal to the BIOMCH-L community for assistance was posted as a last resort by a friend of the family, Ed Wachtel, who currently works in the Orthopaedic Biomechanics Laboratory at UC Berkeley. (Editor's note: The actual path by which the information traveled from Brendalee to the list was a bit more circuitous, passing from Brendalee's mother to the family who employed her as a housekeeper in the Bahamas to their neighbor in California, whose son happens to be married to the sister-in-law of the daughter

of one of the sisters from the family that employed Brendalee's mother.) Like everyone else, I might have been inclined to hit the delete key after reading this message if it had not been for the fact that Ed and I attended graduate school together at Clemson. It seemed like a simple enough matter to warrant at least a few phone calls. As luck would have it, my first call was to the Assistant Director of Prosthetics and Orthotics at the University of Virginia, Bryan Franke-Fuller, who was very receptive to the idea of helping. Over the course of the next several months, many people worked together to communicate the necessary information and make arrangements for Brendalee's visit.

In February of this year, Brendalee traveled to the U.S. for approximately three weeks. During that time she stayed in Maryland with Barbara Dennison, whose family employed Brendalee's mother and who has known Brendalee since she was born. With Barbara's assistance, Brendalee made four separate trips to the University of Virginia in Charlottesville for casting and measurement, socket fit, dynamic alignment, and final delivery of her new prosthesis. Because of servability concerns, she was fitted with a relatively low-tech, exo-skeletal design prosthesis with a single-axis friction control knee and a SACH foot. The hardware was generously provided by Ottobock U.S.A. and the material and labor to fit and finish the socket was supplied by Bryan and his colleagues. Upon delivery of her new prosthesis, Brendalee, who is also an accomplished gospel singer, broke out into song to express her gratitude!



Bryan and Brendalee during one of her visits to Charlottesville.

She is now able to get around with the aid of one crutch and is expected to be an independent community ambulator.

While there is a tendency to dismiss such appeals as being too time-consuming or financially demanding to get involved, the impact that our actions can have should not be underestimated. The outcome in this case clearly illustrates that point. Through the combined efforts of a number of people from various institutions across the country, the necessary expertise and resources were brought together to assist an unfamiliar individual. These efforts include not only the contributions of the persons mentioned above, but also those of many others who replied with helpful suggestions and encouragement. Brendalee and her extended family and friends were truly impressed with the response of the scientific community to this challenge. As members of that community, we can all be proud of our accomplishment in this instance, but we should also be cognizant of the many other challenges that exist and continue to use our abilities to make a difference, even if only in the life of one person. From Bryan's perspective, outreach of this type is beneficial to the community as well as the individual and should clearly be encouraged. As an added benefit, he also notes that the sense of personal satisfaction goes far beyond any remuneration for such work.

Can our actions really make a difference? Just ask Brendalee.

On an unrelated note, my request for feedback concerning the newsletter content that was included in the last issue of the newsletter yielded no responses. Preferring to view the glass as half full rather than half empty, I will accept this as a sign of approval and continue with the current format. However, I am still interested in receiving feedback and welcome your suggestions and comments regarding the newsletter.

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 all 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 December, 1996. **Deadline for submission of material is 15 November 1996!**

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. Each member contributes \$500 per annum to the Society. A significant benefit for companies is that the exhibitor's fee at the annual meeting is waived. We are happy to acknowledge and thank the following companies for their support as Sustaining Members:

Aircast

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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.



"You can tell the heat of the day by the length of a sleeping cat!"

From the Secretary/Treasurer

Joan Bechtold

Mission statement — approved The new mission statement was approved, with 508 members accepting it as is, 55 abstaining, and 8 not accepting the statement. Our new mission statement, which reflects the broader role of ASB in our field, is as follows, and will be printed in next year's brochure.

ASB Mission Statement *The purpose of the American Society of Biomechanics is to encourage and foster the exchange of information and ideas among biomechanists working in different disciplines and fields of application, and to facilitate the development of biomechanics as a basic and applied science.*

New officers - Send in your ballot The nominating committee for President-Elect and Program Chair-Elect was chaired by Phil Martin (Exercise and Sport Science, Past-President), with Dick Brand (Health Sciences), Don Chaffin (Ergonomics and Human Factors), Trey Crisco (Engineering and Applied Physics), and Rick Lieber (Biological Sciences) serving as committee members. They have identified an excellent slate of candidates, whose biographical sketches are included on page 16 (Mark Grabiner and Bruce Martin for President-Elect, and Scott Delp and Melissa Gross for Program Chair-Elect).

Please take a moment to read their sketches, and then VOTE, and SEND in your ballot! We had a good response on the mission statement, and need to continue to hear your voices. The position of President-Elect and Program-Chair Elect are very important to our society, and to our future direction. It is crucial that we hear from all of you, and we have tried to make it easy for you (refold the ballot, and you'll find the return address already printed).

Potential price increase with Elsevier Elsevier has informed us that they again intend to raise by \$2 each the prices of the Journal of Biomechanics and Clinical Biomechanics. The Budget and Finance Committee and Executive Board are working to negotiate a stable relationship with Elsevier for a constant subscription rate for a fixed time period. We are trying to avoid having to continually raise the membership's annual dues to cover the increased journal costs.

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. You can contact me (page 4) or my able assistant Carole Schutte at carol.schutte@co.hennepin.mn.us.

First Announcement: ASB Graduate Student Grant-In-Aid Program

An important mission of the American Society of Biomechanics is to facilitate the development of biomechanics as a basic and applied science. Because the students of today will be the leaders of our field in the future, the professional development of student members has been a priority of the Society since its inception. As part of its commitment to student members, the ASB Executive Board is pleased to announce the initiation of the ASB Graduate Student Grant-in-Aid Program.

The purpose of the GIA Program 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 first funding period that will begin July 1, 1997. Award amounts are expected to range from \$500 to \$2500 for a one-year period. Students must be members no later than January 1, 1997 to be eligible for an award. A two-stage review process will be used. Interested students must first submit a letter of intent by October 15, 1996 that identifies the significance of and need for the research to be conducted, specific aims and hypotheses to be examined, and a brief overview of the methods to be employed. Those who receive a favorable review at this stage will be invited to submit a full research proposal by March 14, 1997. The first funding cycle will run from July 1, 1997 to June 30, 1998.

For more information about the Graduate Student GIA Program, including specific instructions for preparing the letter of intent, please send a request to: Philip E. Martin, Ph.D. whose details appear on page 4.

Students' Corner

Peter Vint

Hello again from the desert. I hope the academic year has been a success for you. If you are currently looking to enter the job market, be sure to drop me a line and ask for the latest files from the Job Resource Center. There have been a number of new research positions coming across the Net. If you are new to the student membership, the Job Resource Center contains listings of job and post-doctoral research opportunities, an interview preparedness guide, and a sample of professional vitae templates. To access the files from the Job Resource Center, simply send me an e-mail note with the following text:

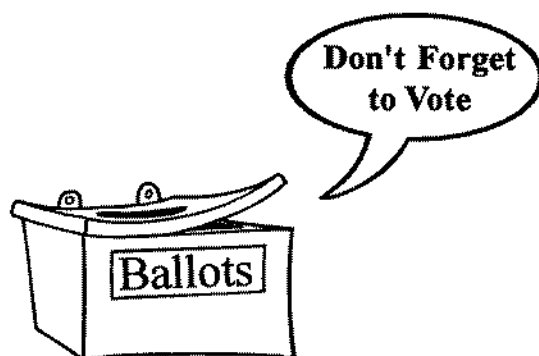
JOB RESOURCE CENTER REQUEST: <jobs, vitae, interview, books, all>

If you do not want all of the current information in the Job Resource Center, just ask for one (or more) of the information files. If you would like to receive all available files, simply ask for "all".

I hope you will try to make arrangements to attend the 1996 ASB meeting in Atlanta. As always, the annual ASB conference promises to be an exceptional experience for the student members. ASB has historically done a terrific job at keeping the registration fees for student members low. In previous years, the student registration fees have included conference registration, tours, tutorial lectures, the student luncheon, and the banquet. You should note that the student member registration fee for last year's conference was only \$30! Plan to attend! If you are in need of a roommate, drop me a line at my e-mail address (listed below) and I will do my best to match you up with another student.

At this time, I would also like to encourage you to run for the student representative position in 1996-1997. The responsibilities of the student representative include attending the annual and mid-year executive board meetings, helping to organize the student luncheon, serving as a liaison between the student and professional members, and anything else you can think of. There is always room for new and creative ideas. The new student representative will be elected during the student luncheon at the 1996 Annual Meeting in Atlanta. If you are interested in running for this position, please contact me via e-mail and I can provide you with additional information. Personally, this has been a great experience for me and I have sincerely enjoyed the opportunity to serve the Society and the student membership.

Lastly, if you have still not heard from me via e-mail, please drop me a line at VINT@ESPE1.LA.ASU.EDU so that I may add you to the student member list. My e-mail system has continued to return a number of postings which have been sent to incorrect addresses. If you have a new address or are a new student member, please let me know. Also, if you have questions, concerns, or any thoughts that I may pass on to the professional membership, please do not hesitate to drop me a line. Have a great summer and I hope to see you in Atlanta!



Advertising in 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. Job postings or other special announcements may purchase advertising space as well. The price list is as follows:

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

Please contact Ms. Stephanie Goar at (804) 982-0893 or scg3q@virginia.edu if you have any information concerning potential advertisers.

CANDIDATES FOR PRESIDENT

Mark D. Grabiner, Ph.D.

Cleveland Clinic Foundation, Cleveland, OH

Mark D. Grabiner received his Ph.D. in 1985 from the University of Illinois, Urbana. He has been at the Cleveland Clinic Foundation since 1986 and presently directs the Clinical Biomechanics and Rehabilitation Laboratory in the Department of Biomedical Engineering. He is an adjunct Associate Professor in the Department of Biomedical Engineering at Case Western Reserve University.

He has served the American Society of Biomechanics in a number of capacities, Program Committee member (1988), Education Committee member (1989-92), Secretary-Treasurer (1992-95), Budget and Finance Committee member (1996), and Awards Committee member (1996). Dr. Grabiner serves, as an Editorial Board member of the Journal of Applied Biomechanics, and Clinical Biomechanics, as Editor of the Newsletter for the International Society of Biomechanics, and was recently named Editor of the Journal of Applied Biomechanics. He has served on NIH Special Review Groups and as a consultant to the NIH Division of Research Grants. He has served on a number of national committees including the U.S. Olympic Sports Sciences Committees for Judo, Karate, and Wrestling. In 1991, Dr. Grabiner was honored by the American College of Sports Medicine with a Young Investigator Award and presently represents that organization on the U.S. National Committee on Biomechanics.

Dr. Grabiner's research focuses on nervous system control of muscle systems, emphasizing rehabilitation from orthopaedic related injuries, the neuromechanics of eccentric muscle contraction, and falling in the elderly. He presently lists 51 scientific articles in these areas. He is the principal investigator on research grants from a number of corporate sources, the American Federation for Aging Research, and the National Institutes of Health.

R. Bruce Martin, Ph.D.

University of California, Davis, Davis, CA

Bruce Martin received his Ph.D. in Theoretical and Applied Mechanics from West Virginia University in 1970. He subsequently joined the Orthopaedics Department in the School of Medicine there, 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 is currently a member of the NIH orthopaedics study section and deputy editor for the Journal of Orthopaedic Surgery. He was a founding member of the ASB in 1977 and served as Secretary-Treasurer (1986-89). He also served on the Membership Committee (1984-86) and was local arrangements chair for the 1987 meeting.

ASB Newsletter

CANDIDATES FOR PROGRAM CHAIR

Scott L. Delp, Ph.D.

Northwestern University, Chicago, IL

Scott Delp received his Ph.D. degree in mechanical engineering from Stanford University in 1990. He worked at Hewlett Packard's Graphics Workstation Division from 1983-85 and the Veterans Affairs Rehabilitation Research and Development Center in Palo Alto, CA from 1986-1990. Since 1991, he has been an Assistant Professor in the Departments of Biomedical Engineering and Physical Medicine & Rehabilitation at Northwestern University. He is also a Senior Research Scientist at the Rehabilitation Institute of Chicago.

Dr. Delp's research focuses on biomechanics of human movement, with emphasis on graphics-based simulation of surgeries and dynamics-based analysis of movement. He has a long-standing interest in musculoskeletal deformities and movement abnormalities in children with cerebral palsy. He was awarded the ASB Young Scientist Award in 1991, a NSF National Young Investigator Award in 1992, and was honored at a White House ceremony with President Clinton in 1993. He currently holds grants from NIH, NSF, ARPA, and the United Cerebral Palsy Foundation.

Dr. Delp's service to the American Society of Biomechanics and the biomechanics community has taken several forms. He served on the Membership Committee of ASB (1992-95), and presented or co-authored eleven papers at ASB meetings over the last decade. He serves as a regular reviewer for the Journal of Biomechanics, Journal of Biomechanical Engineering, Biological Cybernetics, and the Journal of Orthopaedic Research. He was recently elected to the Editorial Board of Gait and Posture. He is also a member of the New Initiatives Committee of the International Society of Biomechanics.

M. Melissa Gross, Ph.D.

University of Michigan, Ann Arbor, MI

Melissa Gross received a B.A. (1976) in dance from the University of Colorado and an M.S. (1979) and Ph.D. (1984) in kinesiology from the University of California, Los Angeles. She completed 5 years of postdoctoral training at the Palo Alto Veterans Affairs Medical Center and Stanford University. She is currently Assistant Professor in the Department of Movement Science and Assistant Research Scientist in the Institute of Gerontology at the University of Michigan. Her research interests emphasize the interaction of musculoskeletal biomechanics and neural mechanisms in the coordination of movement. Current projects focus on the effects of muscle strength and self-induced perturbations on dynamic balance in the elderly.

Dr. Gross has been a member of the American Society of Biomechanics since 1981, and has regularly participated in the ASB annual meetings. She served as Secretary-Treasurer (1989-92), and as Membership Committee Chairperson (1992-95). She has also served for 3 years as a member of the Editorial Board of the Journal of Applied Biomechanics.

