

American Society of Biomechanics Newsletter

Vol. 16 December 2003 No. 2

www.asb-biomech.org

From the President

Walter Herzog

The American Society of Biomechanics is a thriving and energetic organization. The recent ASB conference in Toledo was testimony to this, and the organizers, Vijay Goel and Danny Pincivero are to be congratulated on a great effort and execution of the annual meeting. At this time, I would like to look forward to the next ASB conference, specifically, and the future of the ASB, in general.

Regarding next year's conference, I am confident that it will be a great success. Michael Bottlang is an energetic and enthusiastic conference chair, and Portland should be an attractive site for the meeting. Please see this Newsletter for further information. There will be some changes to the scientific program for this coming year that were adopted at the executive meeting following the conference.

The first change will be that the executive board of the ASB, in consultation with former colleagues and students of Jim Hay, decided to have a Jim Hay Award in Biomechanics of Sports and Exercise in each year's program of the annual conference. This award is in honor of the late Jim Hay, who made great contributions to the National and International Biomechanics scene. Jim was a president and founding member of the ASB, and also served as the president of the International Society of Biomechanics. He has trained numerous students, and was world-wide best known for his textbooks on the Biomechanics of Sports Techniques. His approach to science through deterministic modeling was unique, and his love for scientific investigation unparalleled. Aside from honoring Jim in this particular way, the award is also thought to stimulate young people in the areas of Biomechanics of Sports and Exercise to attend and contribute to the ASB and its annual meeting. The founding fathers of the ASB came almost exclusively from a sport and exercise background, and for a variety of reasons, this field of scientific investigation is not as strongly represented at the ASB as it used to be. Hopefully, this award will encourage increased participation from researchers in exercise and sport sciences. The Jim Hay award winner will be identified from the submitted abstracts, s/he will lead off a session devoted to exercise and sport science at the ASB conference, and will receive a plaque and \$500.

The second change is associated with the creation of an ad hoc program committee responsible for identifying interesting topics, or under-represented areas of biomechanics research, that should receive exposure at the annual conference. For next year's conference, the following topics were identified and slated for a symposium session: Cellular and Molecular Biomechanics, Motor Control in Biomechanics, and Neuro-biomechanics. The purpose of these special symposia will be to attract the best researchers in these areas and expose their work to the ASB community, as well as expose the invited speakers and their students to the ASB.

Switching gears, and thinking about the long-term future of the ASB, I think it will be important to evaluate the role that ASB wants to play in the biomechanics community. For me, the ASB conference has always been a great place for students to present their initial research. The ASB is small enough to create a family atmosphere and make students feel welcome and part of the group, yet big enough to challenge them appropriately and prepare them for bigger international conferences, such as the ISB or World Congress of Biomechanics. The ASB has evolved primarily out of its beginnings in sport and exercise science and human biomechanics. At present, there are a variety of exciting

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research areas that are not well represented at the ASB meetings, and one of the questions is on how aggressive does one want to be to attract people from such areas, and how broadly does the ASB want to represent the community of biomechanists.

One of the big changes that have occurred in biomechanics research since my graduate student times is the emphasis on the biological system. Bones are not inanimate beams anymore, but are biological systems that respond to mechanical loading, to aging, to disease, and therefore, the material properties continuously change. This emphasis on the biology of the systems that we work with has become important in the assessment and evaluation of disease, aging and adaptive processes, and represents a field of research in which fundamental experimental and theoretical contributions can be made quite readily, as it is still relatively unexplored.

Similarly, being a regular participant at the Biophysical Society meetings, I am always struck by the disconnection of the Biomechanics and Biophysics fields. Biophysicists primarily deal with the mechanics and physiology of cellular and sub-cellular systems. For example, the interactions between skeletal muscle myosin II and actin are heavily investigated by biophysicists, and they know a great deal about the molecular aspects of muscle contraction. However, many biophysicists will not know the basic mechanics of a single muscle fiber, such as the force-length or force-velocity properties. It strikes me that much might be gained by biomechanists to understand and

interact with biophysicists, and so, work across a series of structural levels. For example, in muscle, this could mean working on single actin-myosin interactions up to the level of the entire muscle. The ASB will need to decide whether such interactions are useful, and if they may advance the cause of the society.

Whatever decisions will be made about the future directions and goals of the ASB, one thing seems for certain: biomechanics is a thriving area of scientific investigation. It has grown ever since I was exposed to it first in 1978, and with the advancement of imaging techniques, molecular biology approaches, nanotechnology applications for human health and well-being, and many related areas, biomechanics seems a field of endless opportunities for young scientists. It is a pleasure to do research in this area of scientific research, and to train the aspiring new generation of scientists, and it is an honor and privilege to serve the ASB as president in these exciting times for biomechanics.

Commercial Members

Commercial membership categories are 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. Based on level of financial support required and upon benefits provided, commercial membership categories in decreasing order are Sustaining Member, Supporting Member, Contributing Member, and Corporate Member. Companies wishing to become a Commercial Member are encouraged to contact either Julianne Abendroth-Smith or Walter Herzog (page 4) for details. The ASB Executive Board is pleased to recognize:

CORPORATE MEMBERS

Aircast

DePuy

Orthofix, S.R.L.

Peak Performance Technologies, Inc.

Tekscan, Inc.

All members of the Society are invited to suggest names of potential commercial members. Please send your suggestions to Julianne Abendroth-Smith, 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.

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From the Secretary/Treasurer

Ted Gross

In this much awaited edition of the Secretary-Treasurer report, I wanted to briefly update the membership on three topics: 1) journal subscriptions, 2) finances, and 3) web-based elections.

Journal Subscriptions: During 2003, ASB moved to voluntary journal subscriptions (in the past, all regular members were required to subscribe to the Journal of Biomechanics). As of the Annual meeting in Toledo, we had experienced a 40% reduction in the total number of subscriptions for members (in previous years ASB processed ~700 subscriptions annually). The reduction was almost entirely in our number of Journal of Biomechanics subscriptions, as subscription numbers for the other journals offered through ASB remained fairly constant. As a result of this decrease, Elsevier has increased Journal of Biomechanics subscription costs by \$4 for 2004, but this only slightly exceeds previous annual cost increases over the past few years (\$2 to \$3). Both the Executive Board and membership feel that the voluntary subscription process is worth continuing, and we will do so for 2004. As in past years, small increases (\$1 to \$3 range) in journal subscription costs will be experienced for most of the journals. In a move that should be applauded, Human Kinetics will hold Journal of Applied Biomechanics costs constant for 2004.

Finances: Society funds have benefited from market appreciation over the past year. As of September 30, ASB funds totaled \$126,349, an increase of 24% from the end of 2002. Society funds are invested diversely, with ~47% in a variety of mutual funds, 22% in market index cash certificates, and 31% in cash or money market funds. As in past years, the ASB operating budget remains under \$40,000 per year. Given the financial stability of the society, the Executive Board intends to return nearly 50% of that amount to the society in 2004 via sponsorship of Regional meetings, Grants-In-Aid, Student Travel Awards, and Annual Meeting Awards.

Elections: Thanks to those of you sending comments/suggestions on our first web-based society elections. The vast majority of members indicated they would like to continue with this format (247 vs. 2). However, at the annual business meeting, one member did point out that this was a somewhat biased sample given that the opinion poll was on the web. One additional positive aspect to the web based election was that we increased member participation (48% vs. 40% with paper ballots) while reducing society costs to conduct the election. I will leave the assessment of the statistical significance of this increase to others more qualified. Plunging forward without statistical analysis, our current plans are to conduct the 2004 elections via the Web.

Finally, please make sure that we have your most current e-mail address as this greatly simplifies society correspondence. The 2004 dues and subscription invoices should be e-mailed in early December. If you have not received one, please contact me (tgross@u.washington.edu or 206/341-5604).

Education Committee

Steve McCaw

It is mid-October as this is being written. The 2003 ASB meeting in Toledo is a fresh memory. As Education Committee Chair, I am happy to report that the meeting offered plenty of opportunities for education. Kudos are directed to all who contributed to the scientific and social success of the meeting, especially Drs. Vijay Goel and Danny Pincivero for conference organization and Dr. Roger Kram for providing an outstanding scientific program. Although there were many highlights, this reporter's personal favorite presentation was Dr. Michael Dickinson's *How Flies Fly*, although it left me pondering why a critter capable of such amazing aerial feats would choose such a nasty dietary staple.

The tutorials offered on the closing afternoon of the meeting were excellent and well attended. Comments from attendees were positive. On behalf of the ASB I want to thank presenters Dave Hawkins, Ph.D. of UC Davis (*Ultrasonography: A Non-invasive Tool for Quantifying Muscle-tendon Deformation In-vivo*) and Steve Messier, Ph.D. of Wake Forest University (*Successful Grants for Young Investigators*) for their contributions to the society.

Student representative Max Kurz organized a very successful presentation and panel discussion during the student luncheon. A standing room only crowd of ~120 students (exceeding attendance at any recent student meeting) dined on a box lunch of choice while participating in a question and answer session on a variety of professional and personal topics with Drs. Mary Rogers, Jill McNitt-Gray, and Claire Farley, ASB president Walter Herzog, Alan Hreljac and Steve McCaw. Max was elected to another term as student representative during the meeting.

Funding Opportunity: ASB Grant-In-Aid Program: The ASB Grant-In-Aid Program provides financial support to student research. Through this program, ASB makes available \$7000–10,000 annually for financial support of research projects proposed by students as part of their thesis or dissertation work. Incredibly, there were no applicants for this funding in 2002–2003! Perhaps students have more money than they need, or they were unaware of the program, or maybe they were intimidated by the two-step application process consisting of a letter of intent followed by an invitation to some for submission of a complete proposal. Whatever the reason, for at least the short-term the application will consist only of a research proposal. Complete guidelines for the ASB Grant-In-Aid Program proposal are available on the ASB website. (The application deadline is January 30, 2003 for funding disbursement in the spring.)

Interested in seeing a particular tutorial at next year's meeting? Interested in presenting a tutorial? Tutorials are a critical part of the annual meeting, and one of the Education Committee Chair's responsibilities is to identify topics and arrange for tutors. Your

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(Education Committee continued from page 3)

help will make this easier for me, and ensure that the most relevant tutorials are presented. To request that a particular topic be presented as a tutorial, or to personally organize and present a tutorial, see the *Request for Tutorials* elsewhere in the newsletter. As per an executive board decision, stipends are now paid to a tutorial presenter. To entice ASB members to suggest a topic, a complementary tutorial registration will be given to the individual proposing a topic that gets selected for a tutorial.

As of this writing (October) no potential organizers of regional student meetings for 2004 have contacted me. These meetings are well received by students and faculty alike, and are not as difficult to organize and run as you might fear. ASB recognizes the value of these regional conferences and is eager to see more offered around the country. It is not too late to get one ready for Spring 2004, so contact me if you are interested in taking on this service.

By the time this shows up on my desk and your desk as part of the newsletter, the annual treat of watching the Chicago Cubs collapse in glorious fashion will have lost its luster, even for a Montreal Expos fan like me (but the 2003 meltdown was remarkable and memorable, even by the Cubs' high standards). Recreation league hockey will be occupying my Sunday evenings, and end of semester anxiety will be occupying my students while I look forward to no more classes and the opportunity to focus my professional efforts on research and scholarship. It has been a rewarding first year of service as Education Committee chair, and I look forward to another year with the ASB. Contact me (smccaw@ilstu.edu or 309/438-3804) if you have any questions or comments regarding the efforts of the Education Committee.

Advertising in the ASB Newsletter

The Editorial Board invites various businesses and corporations that have products or services of interest to members of the Society to advertise in the ASB Newsletter. Advertising space may also be purchased for job postings or other special announcements.

The current advertising rates are as follows:

1/4 page	\$100
1/2 page	\$200
full page	\$400
back page	\$600
separate insert	\$600 per insertion

If you are interested in placing an advertisement or have any information concerning potential advertisers, please contact Don Anderson at (don-anderson@uiowa.edu).

Graduate Student Grant-In-Aid Program

The purpose of the Graduate Student Grant-In-Aid 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 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. ASB anticipates making 3–5 awards, ranging from \$500 to \$2500 for a one-year period. Students must be members of ASB or have a membership application pending no later than January 1, 2004 to be eligible for support. Applications must be submitted by electronic mail (Word or ASCII text) before January 30, 2003. The application must identify: 1) the significance of and need for the research, 2) specific aims and hypotheses to be examined, 3) an overview of the methods to be employed, 4) an itemized budget, 5) a curriculum vita of the applicant, and 6) a letter of recommendation from a faculty advisor/supervisor. Sections 1 to 4 of the application should not exceed seven double-spaced pages. Page margins should not be less than 2.5 cm and font size no less than 11 point. The Education Committee of the American Society of Biomechanics will review applications, with funding distribution expected by April 1, 2004.

Applications and inquiries should be submitted to:

Steven T. McCaw, Ph.D.
Chair, ASB Education Committee
School of Kinesiology and Recreation
Illinois State University
email: smccaw@ilstu.edu

••• Attention ••• ASB Members

If you are interested in becoming more active in the Society (e.g., serving on a committee or chairing a conference session), contact Steve McCaw, Education Committee Chair (page 4) with your name, address, phone/fax number, email address, and your desired involvement. This information will be included in a data base which is periodically updated and distributed to the Executive Board.

Thanks!



ASB 2004

28th Annual Meeting of the
American Society of Biomechanics
Portland, Oregon
September 9 to 11, 2004

Organizers:

Legacy Health Systems
Oregon Health & Sciences University
Portland State University
Oregon Graduate Institute

Meeting Chair:

Michael Bottlang, Ph.D. (mbottlang@lhs.org)
Department of Orthopaedics, Oregon Health & Science University
Director, Legacy Biomechanics Laboratory

Program Chair:

Steve Robinovitch, Ph.D. (stever@sfu.ca)
Department of Kinesiology, Simon Fraser University, Burnaby, B.C.



Students' Corner

Max Kurz

This year I was fortunate to be re-elected as your student representative. This is a unique situation because it will give me an opportunity to further develop ASB's mission to nurture students into successful scientists. I hope to bring you new educational opportunities this year that will allow you to improve yourself as you strive to meet your research and vocational goals.

If you have not already heard, the 2003 ASB meeting at the University of Toledo was quite a success. There were many opportunities for students to improve themselves as future young scientists. The ASB student meeting had the largest attendance ever. At the student meeting we had an open forum where some of the top researchers in our field provided their insights on the ingredients necessary to succeed in biomechanics. Based on the large response to the forum, I am currently in the progress of putting together a mentoring program that will start at our next ASB meeting in Portland, Oregon. The mentoring program will allow students to be matched during the meeting with a scientist that has a similar research interest. The goal of the mentoring program is to optimize the educational and professional experiences of students attending the meeting and to assist the socialization of students into the field of biomechanics.

Students attending this year's meeting also had a chance to attend a grant writing tutorial conducted by Dr. Steve Messier. This tutorial was excellent. Dr. Messier has agreed to post his slides from this tutorial to the ASB student web page for all students to view (<http://www.asb-biomech.org/>). Hopefully, these slides will provide you with further insight on applying for external funding in the future.

Students getting ready for their dissertation or thesis work should be aware of ASB's Graduate Student Grant-In-Aid Program. This program is designed to offer a source of research funding for ASB students. Funds from this program 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 ASB Executive Board anticipates making 3–5 awards that range from \$500 to \$2500 for a one-year period. Students must be members of ASB or have a pending membership application to be eligible for an award. Further information on the Grant-In-Aid Program can be found on the ASB website.

I am in the process of generating new ways to improve student interaction at the ASB meetings. At next year's meeting, I have aspirations to put together a "Women in Science Breakfast." This breakfast will allow female students to interact with other women scientists in an informal setting. If you have other ideas that you would like to see put forward at next year's meeting, please feel free to contact me via e-mail at mkurz@mail.unomaha.edu. Please remember to check the ASB student web page regularly for any new updates and opportunities for students.

Graduate Program Information

The ASB maintains an on-line database of universities and colleges with graduate programs in biomechanics. The database is organized alphabetically by country and state and currently includes more than 70 institutions from Canada, the United Kingdom, and 32 different states within the US. This is a great resource for undergraduate students who may be considering graduate school as well as for anyone who just wants to find out what's going on at other institutions.

Is your institution included in the database? If not, new information can be sent to Kathy Simpson at the University of Georgia via email: ksimpson@uga.edu. Because the information contained in these listings may gradually become outdated as equipment and personnel at laboratories change over time, all institutions are encouraged to review and update their information periodically.

New and updated program information can be transmitted directly in an e-mail. Alternatively, an online form can be used to submit updated graduate program details.

The graduate program database can be accessed through the Society's homepage at: www.asb-biomech.org

A Scientist's Dozen

1. Choose a job you love, and you will never have to work a day in your life.
2. Never burn your bridges, especially if you pursue science as a career.
3. You can go anywhere you want if you look serious and carry a rack of microfuge tubes.
4. Take your work seriously, but not yourself.
5. The last person who left the lab will be the one held responsible for everything that goes wrong.
6. Your background and circumstances may have influenced what you are, but you are responsible for what you become.
7. Only work with people who like chocolate.
8. If you keep your standards high, people will always find a place for you.
9. When the lottery hits \$100 million, get everyone in the lab to put in a dollar a piece (and only a dollar) and buy a pool of chances. You will have a million dreams.
10. A pat on the back is only few centimeters from a kick in the pants.
11. Treat the administrators and administrative assistants whom you deal with well, for if you take care of them, they will take care of you.
12. Everything in moderation except love, understanding, and the number of experiments you do for your supervisor.

Adapted from *The NIH Catalyst* by Nick Stergiou. Originally written by Howard Young a senior scientist at the Laboratory of Experimental Immunology at NIH.

Program Committee

Steve Robinovitch

The Program Committee invites you to participate and attend the 28th Annual Meeting of the American Society of Biomechanics. The conference will be held September 9–11, 2004 in Portland, Oregon. The Meeting Chair is Michael Bottlang, Ph.D., Research Director, Biomechanics Laboratory, Legacy Clinical Research and Technology Center, Portland, OR. The Program Chair is Steve Robinovitch, Ph.D., School of Kinesiology, Simon Fraser University, Canada.

The deadline for abstracts will be April 1, 2004. Notice of acceptance will be given by June 1, 2004. The abstract should be two pages, using the exact format described at: <http://www.asb-biomech.org/conference03/guidelines03.pdf>.

General topics of interest include: Orthopaedics, Cell and Tissue Biomechanics, Aging, Ergonomics, Clinical Biomechanics, Gait and Movement, Joint Mechanics, Spine, Lower Extremity, Upper Extremity, Imaging, Methods/Instrumentation, Modeling, Neurophysiology, Muscle, Motor Control, Posture & Balance, Sport Sciences, Prosthetics/Orthotics, and others.

Abstracts must be submitted in PDF format via e-mail to Kathy Simpson, Ph.D., ASB Communications Chair, e-mail: ksimpson@uga.edu. Further details on abstract submissions, the meeting format, and travel arrangements will be posted on the ASB website (<http://www.asb-biomech.org>).

One highlight of this year's conference will be transdisciplinary symposia in areas such as cell and molecular biomechanics, joint neuromechanics, and motor control of movement.

Another highlight will be a keynote lecture by Steven Vogel, Ph.D., Professor of Biology at Duke University, and author of several insightful books on biomechanics, including *Comparative Biomechanics: Life's Physical World*; *Prime Mover: A Natural History of Muscle*; *Cats' Paws and Catapults: Mechanical Worlds of Nature and People*, and *Life's Devices*.

Other exciting keynote lectures, symposia, and tutorials are being planned by the ASB Program Committee.

We also encourage you to submit applications and nominations for the following prestigious awards that the ASB rewards annually: the Giovanni Borelli Award, the Pre- and Post-Doctoral Young Scientist Awards, the ASB Travel Fellowship, and Student Travel Awards. Additionally, nominees for the Clinical Biomechanics Award, Journal of Biomechanics Award, and the ASB-Microstrain Award will be selected by the ASB Awards Committee from the top-rated abstracts submitted to the meeting, as ranked by the Program Chair and the reviewers. For more information about these awards, please contact Joan Bechtold Chair of the Awards Committee, via e-mail:

bechtol@attglobal.net, and check the ASB web site at: <http://asb-biomech.org/conference03/awards03.html>.

Your suggestions and questions regarding the conference program are always welcome. Please direct comments to Steve Robinovitch, Ph.D., ASB Program Chair, e-mail: stever@sfu.ca.

On behalf of the Meeting Chair and Executive Board of the ASB, I encourage your participation and look forward to seeing you in Portland next September!

Request for Tutorials

Proposals and suggestions for tutorials are solicited for presentation at the 2004 meeting of the ASB in Portland, Oregon. Proposals on any topic of potential interest to the ASB membership are welcomed. Proposal ideas may be submitted by the potential presenter, or suggested by an ASB member interested in seeing such a tutorial presented.

A tutorial is typically 1.5–2 hours in duration, with an expected attendance of 10–30 people. Attendees pay a fee in addition to the meeting registration to participate in the tutorial; tutorial attendance for students is free.

Tutorial presenters receive complimentary registration for the meeting and an honorarium of \$500. The tutorial registration fee will cover materials for distribution to attendees. Presenters must make arrangements for special equipment or instrumentation, although the ASB Executive Board and/or the meeting program committee will help as possible. Payment of other expenses associated with the tutorial is negotiable, but generally become the responsibility of the presenter.

Proposals must be submitted by email to Steve McCaw (smccaw@ilstu.edu), Chair of the ASB Education Committee, no later than February 19, 2004. Applicants will be notified of tutorial status by April 30, 2004.

Bonus: If you suggest a topic that is ultimately accepted as a tutorial, you will receive complimentary registration at the tutorial.

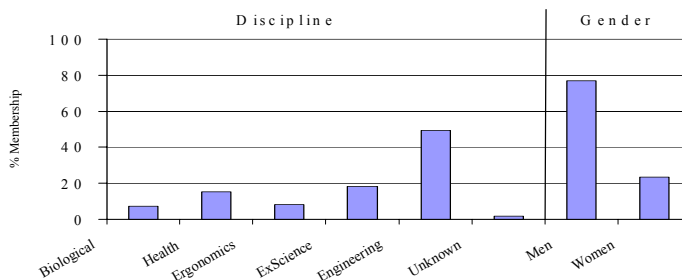
Provide the following information when suggesting a tutorial:

- Proposed tutorial topic
- Suggested/identified tutorial presenter(s)
Note: The ASB Education Committee Chair will contact a suggested presenter, and/or will identify a presenter if you only suggest a topic.
- Brief description of the tutorial
- Name and email of the person submitting the tutorial proposal (optional)

Membership Committee

Julianne Abendroth-Smith

Greetings from the Membership Chair and Committee. As a society, ASB has maintained a membership of 500–600 members, annually. This year we have 500 members, with another 39 recently accepted for membership. Percentages within the five disciplines, as well as gender percentages are shown below. We are, as always, about half Engineering (50%), but with significant contributions from the Exercise and Health Sciences (18 and 15%, respectively). This past year we saw an increase in new memberships from Exercise Science, Health, and Biology. Students make up about 19% of the total membership, with a similar spread among the disciplines as the regular membership. Men outnumber women three to one, although our student membership, by gender, is two to one.



What does all this mean to us as a Society? We are down in membership from the previous year (12%). We are, however, within the range we have maintained over the past few years. We lose a good number of our student membership every year when it is time for them to switch to regular membership. We do make them reapply for regular membership. We also seem to lose more women than men in the regular membership. I do not have figures to compare our Society with other engineering based societies, but this is a concern for us. We never like to see our members become inactive or uninvolved. Any thoughts on this are much appreciated, for we would not like this to become a lasting trend.

Making former students reapply for regular membership has been a concern. The one question I get asked most frequently is “Does ASB actually turn down potential members?” The answer is yes, we do. Unlike larger societies such as ACSM, we do turn down a small percentage of applicants. Guidelines for the Society state:

The criteria for Regular Membership in the Society are 1) expertise in the field of biomechanics and 2) contributions to the Society. In addition to the specific information requested in the Membership Application Form, please provide a list of not more than ten of the most recent refereed scientific papers, abstracts, and book chapters in your area of interest. Professional employment history should also be documented by briefly listing relevant employment history. Applicants are also asked to list the most recent annual meetings of the American Society of Biomechanics attended. Recent graduates (be sure to provide date of degree) and applicants outside North American will be given special consideration.

Student applicants must use the same Membership Application Form and, in addition, must provide a letter from their advisor certifying student status. Students may list courses or special projects (titles only) related to biomechanics in lieu of publications. Research assistantships and other related experiences might be listed under employment history. Attendance at the annual meeting of the American Society of Biomechanics is not required for Student Members, but related conferences attended may be listed.

The guidelines state the two criteria are expertise and involvement. This means we depend on our members to make this society happen. As an all-volunteer Executive Board and subcommittees, whether elected or appointed, it is the members who are responsible for the meetings, the newsletters, and the grants and awards offered by the Society. We do not accept people as members who do not demonstrate involvement in publishing, presenting or somehow disseminating their research, and we highly encourage prior (and continuing) attendance at the annual meetings. Often those turned down simply did not include the requested materials; these people are encouraged to reapply. Others are turned down for a variety of reasons; but the bottom line is we as a Society do not want be listed on someone’s vita if they are not an active member of our community. We believe it is an honor to be part of ASB, and it involves a commitment to Biomechanics and to the Society.

These guidelines were reviewed by the membership committee at the annual meeting in Toledo. I would like to hear from the membership about your opinions. Where should we stand on membership? Should we seek growth? Do we wish to continue being selective? Should both research and meeting attendance be required, suggested, or dropped? These are questions I would like to bring up at the midyear Board meeting, so if you have an opinion, please feel free to share it with me or any of the membership committee members. And since I have yet to do it, allow me to introduce the committee. I am Julianne Abendroth-Smith, Willamette University, (jabendro@willamette.edu), entering my second year as Membership Chair. Committee members include Dan Ferris, University of Michigan, (ferrisd@umich.edu); Kevin Granata, Virginia Tech, (granata@vt.edu); Andrew Mahar, Childrens Hospital, San Diego, (amahar@chsd.org); and Darryl Thelen, University of Wisconsin, Madison, (thelen@engr.wisc.edu).

So the bottom line. What can you do for the Society? One is to let the Society do something for you! Take advantage of the opportunities offered; apply for grants, suggest nominations for awards. In addition, encourage active members of the Biomechanics community to apply for membership and become involved in the Society. Encourage your students to become members. Former students, let go of your student membership and become regular members. I know there are more than a few of you out there still listed as students! Finally, volunteer yourself to serve on a committee (Contact Steve McCaw, Education Chair, Smccaw@ilstu.edu), or at the very least, plan on attending the next annual meeting, and coming to the business meeting during that meeting. Portland Oregon is in my neck of the woods, and we have so much to offer, both professionally at the meeting, and socially, after the meeting! Come check us out.



...Amidst the Corn

Don Anderson

Ah yes. The cold, clear, dry, short days of winter have arrived here in the Midwestern U.S. (no real snow, yet, but I am not going to complain). That means it is time for the ASB Newsletter to go to the printers, and then on to our readers. Thanks in no small part to your votes for me this past Spring, I will be relinquishing my Newsletter Editorial responsibilities following this, my final Issue, in order to prepare for a three-year stint as the ASB Secretary / Treasurer.

Being a bit slow, mentally, I don't quite know how to take this news. Was it a vote of confidence, or a vote to remove me from my bully pulpit? I choose to believe it is the former, so I thank you for your confidence. Andy Karduna, from the University of Oregon, has agreed to take over the job of Newsletter Editor (ask him about his previous experience as the editor for his elementary school paper, including his editorial about the time the zoo brought some llamas to school – copy submitted for Executive Board consideration courtesy of Andy's grandmother, who keeps it posted on the wall in her house). I wish him all the best in this endeavor. I have certainly enjoyed the job.

Now, sit back, relax and enjoy this, my final column as ASB Newsletter Editor. This past summer, in conjunction with the XIX Congress of Biomechanics in Dunedin, New Zealand, the ISB unofficially staged a competition to uncover the finest Biomechanical haiku (biomch-ku) in all the world (see winning / notable entries posted online at <http://www.isbweb.org/notisb/haiku.html>). Recall, haiku (hy-koo) is a traditional Japanese verse form, notable for its compression and suggestiveness. The form emerged during the 16th century. In three lines totaling seventeen syllables measuring 5-7-5, a great haiku presents, through imagery drawn from intensely careful observation, a web of associated ideas (*renso*) requiring an active mind on the part of the listener.

At the time I heard of the competition, I couldn't help but ponder the significance of this event. A decidedly brief column in my monthly Sports Illustrated magazine, entitled simply "this month's signs of the apocalypse" comes to mind for me. I figure a certain coming of age is signified in a scientific discipline when its practitioners begin to pen haiku inspired by its basic tenets. Consider this prideful, poking-fun entry (first prize winner), contributed by John Brown, from the University of New Brunswick.

**Physiologist
Learn to count and become a
Biomechanist**

The
Haiku
Society of America

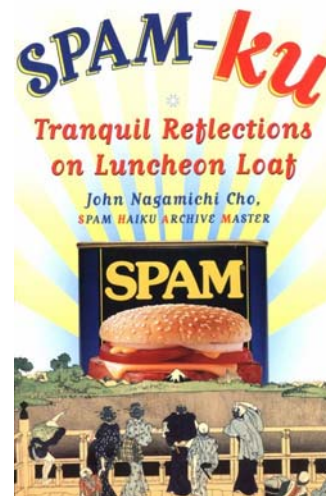


or this inspirational entry, attributed to Zohara Cohen, of the National Institutes of Health

**A well-oiled machine
Efficient and optimized
The Human Body**

As with any fine writing, these verses stir something deep within our collective psyche's (psychoses?). Who among us can not trace our current love of biomechanics to a past realization of the magic of the Human Body? Feel that *renso* flowing yet?

Before we get too full of ourselves, consider the fact that SPAM, the delectable pseudo-meat product, has an entire website dedicated to haiku which it has inspired (www.spamhaiku.com).



Returning to biomch-ku for a moment longer, consider this tormented entry, contributed by Craig Wojcieszak, Fila Sport, Inc. While you read it, reflect on your own experiences in video motion analysis, for this is what haiku (at its best?) offers us, an opportunity to pause and reflect.

**Never ending frames!
Digitized click by click.
I cried. The Film laughed.**

This science we call biomechanics clearly inspires, beguiles, and vexes us all. It even consumes us at times.

The computer programmer in me marveled at the creation of Thomas Greiner, NY Chiropractic College, penned in C++, a programming language likely not originally intended for use in haiku

```
for (i = 0;  
i<=column;  
i=i+1);
```

That last one sent me sifting through my own written computer programs to see if I might not have inadvertently penned my own little Haiku without knowing it...

If the haiku-ification of biomechanics marks a milestone in the maturation of this field of science, then identifying what we might consider our next logical milestone might provide us an opportunity to gauge our progress these next few years/decades. I would offer that the next major milestone might be the karaoke-ization of biomechanics (no doubt already popular in Japan). Loosen up your vocal chords, and prepare to let go. All in the name of entertainment.

Well, it's been fun, but I actually get paid to do research, not to craft wily editorials. When next you hear from me, I will have embraced the dry and formal tone of a Secretary / Treasurer, and my column will no doubt be much less entertaining to read. In fact, I suppose that when the ASB Treasurer's column gets entertaining or requires creativity on the part of the Treasurer, then that is when our Society needs to be concerned.

Let me leave you with this:

**This News Editor
has trifled plenty for now...
...on to better stuff.**



Jim Hay Award

Julianne Abendroth-Smith

The ASB executive committee is pleased and proud to announce the formation of the "Jim Hay Memorial Biomechanics of Sports and Exercise Award," to add to its already impressive list of annual awards given at our yearly meeting. As most of you know, Jim Hay was one of the original founders of ASB, a leader in Sport Science throughout his life. It was a great loss to our community when Jim passed away in the summer of 2002. To honor his memory and his unfailing commitment to Sport Science, the Executive Board unanimously voted to dedicate an annual award in Jim's name, given to the best abstract submitted to the annual meeting in the field of the Biomechanics of Sports and Exercise. This award also demonstrates the commitment of ASB towards Sports and Exercise, as being an important part of our membership.

The goal of ASB is to endow this award, with the Society sponsoring the award until such an endowment is reached. Jim Hay's family, Hilary Hay and her children, have generously donated \$10,000 towards this fund. A corporate sponsorship is being solicited as well. However, donations towards the endowment are welcome from individuals. These can be sent to Ted Gross, Secretary/Treasurer, marked "Jim Hay."

Guidelines for the Jim Hay Memorial Biomechanics of Sports and Exercise Award are in development, but will involve awarding a \$500 prize to the top Sport or Exercise Science abstract at each annual meeting. Watch the web site for upcoming details. The first award will be given at the 2004 Annual Meeting in Portland, Oregon. This means for you, our membership, to put the word out, to encourage the best and brightest in Sport and Exercise Science, to submit abstracts of their work and attend the Annual Meeting in 2004. We would like to be put into a position of having to make a most difficult choice for this award, due to the high number and quality of abstracts submitted to the meeting, in honor of Jim and his lifelong work in our field.

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 PC or Macintosh. If you have any other ideas, please get in touch. The next newsletter will be published in June 2004.

Deadline for submission of materials is April 16, 2004!

From the Past-President

Joan Bechtold

Call for 2004 ASB Award Nominations: As Past President, it is my distinct pleasure to chair the Awards committee. Through my association with ASB over the years, I have seen very worthy senior individuals honored, and have seen student awardees go on to become faculty with students of their own. We have a richness in our midst that we are fortunate to be able to recognize and honor. And, in our students, we have a budding potential that we can help to flourish.

Please consider submitting an application yourself, or consider nominating a deserving outstanding contributor to our field. Also, consider the Graduate Student Grant-In-Aid Program for student members, to help defray dissertation project expenses. Please seriously think about applying for any award that is appropriate for your membership status and research; in some years the numbers of applicants have been surprisingly small.

GROUND RULES

Where to submit?

Online via ASB website (for review by 2004 Program committee, chaired by Steve Robinowitch):

- abstracts for 2004 meeting
- abstracts for Young Scientist Award nominations (also submit abstract and entire Young Scientist application materials to Past-President)
- Microstrain Award, Journal of Biomechanics Award, Clinical Biomechanics and President's Award (*also will be selected from top 20% of submitted abstracts and posters, respectively)

Submit hard copy to Joan Bechtold, Past President (for review by 2004 Awards committee)

- Borelli Award,
- Young Scientist Awards,
- Travel Award
- Student travel Awards

Joan E. Bechtold, Ph.D.

Orthopaedic Biomechanics Laboratory, 860C

Midwest Orthopaedic &

Minneapolis Medical Research Foundations

914 South Eighth St., Minneapolis, MN 55404

email: bechtol1@attglobal.net

* other awards do not need to be explicitly applied for; they will be administered based on the Program committee ranking of abstracts and posters, and choice of finalists and judging by Awards committee.

Who can apply?

- ASB members are encouraged to consider nominating individuals whose work they admire.

- See individual award descriptions for specific requirements.
- Please contact me if you have questions on whether an individual would fit a category, or to discuss any other matters.

When to submit?

- All award applications must be received by Joan Bechtold by **Thursday, April 1, 2004.**
- Student Travel Award application must be received by **August 9, 2004.**

DESCRIPTION OF ASB AWARDS

Borelli Award: The Borelli Award, the most prestigious honor given by the ASB, recognizes outstanding career accomplishment and is awarded annually to an investigator who has conducted exemplary research in any area of biomechanics. The award is open to all scientists, including non-ASB members, but excluding ASB officers and members of the Awards Committee. Candidates may be nominated by themselves or by others. Selection is based on originality, quality and depth of the research and its relevance to the field of biomechanics. A letter of nomination, a comprehensive curriculum vitae, and five publications on a single topic or theme must be submitted. The awardee is expected to attend the 2004 Annual Meeting of the ASB in Portland, in order to receive the award and to deliver the Borelli lecture. The award consists of an engraved plaque and a check for \$1,500 (USD) (Submission deadline is April 1, 2004; submit materials to Past President).

Young Scientist Awards: These awards recognize early achievements by promising young scientists. They are awarded annually to one pre-doctoral student and one post-doctoral student. Nominees for these awards must be current or pending members of the ASB at the time of submission. Candidates may be self-nominated or nominated by an ASB member.

Both awards consist of an engraved plaque, a check for \$200 (USD), and a waiver of conference fees for the 2004 meeting.

Pre-doctoral Award: submitted materials must include a letter of nomination from the department head or graduate research advisor, a short description of the nominee's current research involvement (2 pages), a curriculum vitae, copies of published papers and/or submitted manuscripts (limit 5), and an abstract of original research submitted for presentation at the 2004 ASB annual meeting having the nominee as first or sole author.

Post-doctoral award: submitted materials must include a letter of nomination, the nominee's curriculum vitae, copies of published papers and/or submitted manuscripts (limit 5), and an abstract of original research submitted for presentation at the 2004 meeting having the nominee as first or sole author. A person is considered eligible for the post-doctoral award if they are someone who, on the deadline for submitting their nomination papers for the ASB Young Scientist Award (i.e. April 1, 2004), is within 5 years of their graduation.

ASB Microstrain Award: Microstrain, Inc., of Burlington, Vermont annually funds an award that recognizes superior achievement in the

area of instrumentation. The award competition is open to scientists of any age and stage in their career (for example, undergraduate and graduate students, postdoctoral fellows, faculty and researchers) both in and outside the U.S. The award recognizes the individual's innovative application of existing instrumentation or have developed new instrumentation for use in the field of biomechanics. Candidates for the award must be the first or sole author on an abstract of original research submitted to the 2004 ASB meeting. Candidates for the award will be selected from the top 20th percentile of abstracts submitted to the ASB meeting, as evaluated by the ASB Program Committee. The ASB Awards Committee will then select two finalists from this pool for the award, and each of these two authors will present their work in a special ASB Awards session at the ASB annual meeting. The winner of each award will be selected by the ASB Awards Committee after this session. The award includes an engraved plaque and a check in the amount of \$1,000 (USD).

Journal of Biomechanics Award: This award, sponsored by Elsevier Science, Ltd., publishers of the Journal of Biomechanics, recognizes substantive and conceptually novel mechanics approaches explaining how biological systems function. In addition to being ASB members, candidates for the award must be the first or sole author on an abstract of original research submitted to the 2004 ASB meeting. Candidates for the award will be selected from the top 20th percentile of abstracts submitted to the ASB meeting as evaluated by the ASB Program Committee. The ASB Awards Committee will then select two finalists from this pool for the award, and each of these two authors will present their work in a special ASB Awards session at the ASB annual meeting. The winner of each award will be selected by the ASB Awards Committee after this session. The award includes an engraved plaque and a check in the amount of \$500 (USD).

Clinical Biomechanics Award: This award recognizes outstanding new biomechanics research targeting a contemporary clinical problem, and is sponsored by Elsevier Science, Ltd., publishers of Clinical Biomechanics. In addition to being ASB members, candidates for the award must be the first or sole author on an abstract of original research with special relevance for clinical applications submitted to the 2004 ASB meeting. Candidates for the award will be selected from the top 20th percentile of abstracts submitted to the ASB meeting, as evaluated by the ASB Program Committee. The ASB Awards Committee will then select two finalists for the award from this pool, and each of these two authors will present their work in a special ASB Awards session at the ASB annual meeting. The winner of each award will be selected by the ASB Awards Committee after this session. The award includes an engraved plaque and a check in the amount of \$500 (USD).

President's Award: Following its successful inaugural year at the 2003 Toledo ASB meeting, we are again encouraging submissions for the President's Award. Its goal is to recognize meritorious research involving "highly innovative use of experientnal or theoretical methods in any field of biomechanics" that is presented as a poster at the annual ASB meeting. Candidates for this award must be the first or sole author on an abstract of original research submitted as a poster to the 2004 ASB meeting. Candidates for the award will be selected from the top 20th percentile of posters presented at the ASB meeting, as evaluated by the ASB Program

Committee. The winner of this award will be selected by the ASB Awards Committee after the poster session is concluded, and will be announced at the meeting together with the other awards. The award includes an engraved plaque and a check in the amount of \$500 (USD).

Jim Hay Award in Biomechanics of Sports and Exercise: This newly created award honors the work of Jim Hay in the Biomechanics of Sports and Exercise. All abstracts related to the Biomechanics of Sports and Exercise submitted to the Annual Meeting will be considered. Candidates for the award will be selected from the top 10th percentile of abstracts submitted to the ASB meeting as evaluated by the ASB Program Committee. The Awards Committee will then select the winner from this pool. The award winner will be informed in advance of the Annual Meeting, and they will lead off a session on the Biomechanics of Sports and Exercise at the meeting. The award includes an engraved plaque and a check in the amount of \$500 (USD).

Travel Award: A Travel Award of up to \$1,000 (USD) is offered to foster collaborative research and interaction among scientists by helping to offset the cost of travel to a host institution. All regular ASB members (i.e. not student nor corporate members) are eligible to apply. A cover letter describing the details of the planned project, a copy of the applicant's curriculum vitae, and an indication of the availability of any matching funds from the host's or candidate's institution (desirable but not required) should be submitted. The funding period is from July 1, 2004 through June 30, 2005. The recipient of the Travel Award is expected to present a poster of the funded project at the 2005 ASB annual meeting to be held in Cleveland.

Student Travel Award: The Student Travel Awards are based on demonstrated student status (letter from graduate advisor or department head), an accepted abstract (notification by 2004 Program committee). Previous Student Travel Award winners are excluded, and ASB student status is required. A copy of the submitted abstract, acceptance letter, and a letter from the student's faculty advisor indicating a need for assistance should be submitted to the chair of the Awards committee by August 1, 2004. Typically eight \$250 (USD) awards are granted.

Mentorship—cross-disciplinary and junior-senior

An activity that we are in the process of establishing for ASB is the mentorship I have described in previous columns. This is envisioned as a means to foster inter-disciplinary collaborations, as well as to help to introduce students and junior members to professional mentors. Our Student Representative (Max Kurz), in conjunction with the Education Committee (chaired by Steve McCaw), are working to introduce this process, and to make sure it is relevant to our goals and to our members. Please read about our progress elsewhere in this newsletter, as well as in future newsletters (and feel free to check the Society for Mathematical Biology's analogous and successful mentorship program on their website; <http://www.smb.org/mentoring.shtml>). If you have thoughts or suggestions, or would like to contribute to this process, please do contact any of us. The best way to reach me is with email: bechto1@attglobal.net.

Past Past-President's Report

Andrew Biewener

2003 ASB Nominating Committee: The Nominating Committee: (elected at the annual business meeting in Calgary) consisted of Mark Grabiner, Gary Yamaguchi, and myself (Chair). From the six names the Committee forwarded to the Executive Board, ASB members elected J. J. "Trey" Crisco as President-Elect, Art Kuoas Program Chair-Elect, and Don Anderson as Secretary-Treasurer Elect in the annual ballot for each of these positions. The Chair thanks the committee members for their efforts and the nominees for their willingness to run.

2003 ASB Awards: Ten members kindly agreed to take time out of their busy schedules to serve on the 2003 Awards Committee. They were distributed among our membership categories as follows:

- Biological Sciences: Andrew Biewener (Chair), Claire Farley
- Ergonomics: Mark Redfern
- Exercise Science: Paul DeVita, Melissa Gross
- Engineering and Applied Physics: Joan Bechtold, Scott Delp, Bruce Martin, Gary Yamaguchi
- Health Sciences: Mark Grabiner

Five members (one from each ASB specialty area) evaluated the Pre- and Post-doctoral Young Scientist nominees (6 and 4 nominations, respectively), five members evaluated the Journal

of Biomechanics, Microstrain and Clinical Biomechanics nominees (9, 7 and 5 nominee finalists, respectively, chosen from the top 20% of submitted abstracts from the ASB program committee), and five of the members evaluated the three Borelli award nominees. Selection of the Young Scientist awards was made on the basis of the research papers, nomination letters, and curriculum vitae that were submitted. In the case of the JB/MS/CB awards, the materials made available to the committee consisted of the top-ranked abstracts in each category. Selection of the winners was made on the basis of the oral presentations of each of the two finalists in each category at the ASB awards sessions at the Toledo meeting. The awards sessions were well attended and the quality of the presentations was outstanding. The winners were:

- R. McNeill Alexander (Borelli Award)
- Glenn N. Williams (Pre-doctoral Young Scientist Award)
- Francisco Valero-Cuevas (Post-doctoral Young Scientist Award)
- Silvia S. Blemker (Journal of Biomechanics Award)
- Alaa Ahmed (Clinical Biomechanics Award)
- Oliver K. Erne (Microstrain Award)

The Awards Committee also recommended and approved eight Student Travel Awards and one ASB Travel Fellowship Award (David A. Gabriel, Ph.D.)

In closing, allow me to thank the several committee members for their diligent and hard work. It has been a pleasure and privilege to serve the ASB during the past three years and to work with the Executive Board. Thank you for the opportunity. I look forward to seeing you next year in Portland.

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Job Opportunities

Kathy Browder

University Faculty/Administrative Positions

Bioengineering/Rehabilitation Engineering – Director – Qualifications: Doctoral degree and experience in a suitable area of bioengineering or a related field. Record of scholarship and teaching appropriate for an appointment with tenure. Candidates with research in biomechanics, biomaterials, rehabilitation engineering, and bio-related signal processing and mechatronics are of particular interest. Demonstrated success in managing an academic or research organization and the ability to build relationships with government and private agencies is a plus. Responsibilities: Provide leadership in the development of a vision and goals leading to sustained growth in multidisciplinary research and undergraduate and graduate degree programs linking programs in engineering, science, and physical therapy. Establish an externally funded research program. Send application packet to Thomas Ortmeyer; Clarkson University; Electrical and Computer Engineering; PO Box 5720; Potsdam, NY 13699-5720. Tel: 315-268-6511. E-mail: www.ortmeyer@clarkson.edu. Deadline: Until filled.

Engineering Science & Mechanics – Department Head – Qualifications: Demonstrated dedication to undergraduate and graduate education. Strong record of research performance and professional activities. Overall qualifications commensurate with the rank of Professor. Send application packet to Nancy Linkous; Virginia Polytechnic Institute and State University; 223 Norris Hall; Mail Code 0219; Blacksburg, VA 24061. Tel: 540-231-3243. Website: <http://www.esm.vt.edu>. Deadline: Until filled.

Physical Therapy – Assistant/Associate Professor (Vacancy #9774)–Qualifications: Doctoral degree and evidence of scholarly achievements in area of research preparation. Background and research experience related to one or more of the following: development of human movement and balance, vestibular mechanisms and vestibular rehabilitation, neuroscience, neural rehabilitation, biomechanics. PT credentials and eligibility for North Carolina PT licensure required. Responsibilities: Establish productive research agenda in area of research expertise. Teach/mentor graduate students in entry level PT and post-professional doctoral programs. Send letter of interest, CV, names and contact information for 3 references, and research plan to Bruce C. Albright; East Carolina University; Department of Physical Therapy; School of Allied Sciences; Greenville, NC 27858. Tel: 252-328-2220. Fax: 252-328-0707. E-mail: albrightb@mail.ecu.edu. Website: <http://www.ecu.edu/>. Deadline: 11/14/03.

Large Animal Surgery – Assistant/Associate Professor – Qualifications: DVM and Ph.D. with research training and experience in biomechanics and/or molecular biology. Diplomate status or eligibility for certification examination by the American College of Veterinary Surgeons. Responsibilities: Research (60%). Develop an independent and collaborative research program with

the new School of Biomedical Engineering and Sciences (SBES). Didactic and clinical instruction (25%) in large animal surgery and related disciplines. Service (15%) including outreach through the Large Animal Surgery Section of the Veterinary Teach Hospital, continuing education and public relations programs of the college and university. Send letter of intent with a statement of professional goals, CV, and the names and addresses of 3 references to Dr. Craig D. Thatcher, Head; Department of Large Animal Clinical Sciences; Virginia-Maryland Regional College of Veterinary Medicine; Virginia Polytechnic Institute and State University; Blacksburg, VA 24061-0442. Deadline: 12/01/03.

Biomedical Engineering & Sciences – 5 faculty positions –The Virginia Tech/Wake Forest University School of Biomedical Engineering and Sciences (SBES) seeks candidates for 5 tenure track, teaching and research faculty, with 3 positions in the College of Engineering and 2 positions in the College of Veterinary Medicine at the Virginia Tech Campus. Qualifications: Ph.D. in appropriate engineering or science field or a medical degree (DVM, MD or equivalent). Excellent academic record. Potential to develop effective research program in area of potential growth or sustainable ongoing area. Commitment to interdisciplinary collaborative spirit. Research interests in areas of a) injury and trauma, b) cardiovascular system, or c) neurobiology, with expertise in biomechanics, tissue and cell science, and/or molecular biology. Computational expertise desirable. Responsibilities: Teaching in support of the SBES educational programs. Develop successful research program. Send cover letter clearly indicating the college (COE or VMRCVM) and research area of interest, CV, vision statement, research plan, teaching plan, and names, affiliations, and contact information (including email address and telephone number) of 3 references to J. Wallace Grant; Professor & Search Committee Chair; Department of Engineering Science and Mechanics; 219 Norris Hall; Mail Code 0219; Virginia Tech; Blacksburg, VA 24061. Tel: 540-231-6505. Fax: 540-231-4574. E-mail: vamccoy@vt.edu. Website: <http://www.eng.vt.edu>; <http://www.vetmed.vt.edu>. Deadline: 11/15/03.

Biology/Anatomy – Qualifications: Master's degree in a related field; doctoral degree and teaching experience preferred. Responsibilities: Teach gross anatomy, cross sectional anatomy, and neuroscience for health professions students. Send letter of intent with a statement of teaching philosophy, CV, and 3 letters of recommendation to Dr. Lisa Dutton; Dean of the College of Health Professions; The University of Findlay; Findlay, OH, 45840. Tel: 419-434-4677. E-mail: dutton@findlay.edu. Deadline: 12/01/03.

Neurobiology – Assistant/Associate Professor –Qualifications: Ph.D. with research interest involving undergraduate students; Teaching and postdoctoral experience preferred. Responsibilities: Teach cellular/molecular biology, developmental biology and neuroscience. Course development in Biochemistry and Molecular Biology. Establish and participate in interdisciplinary faculty/student research programs in biochemistry, cellular and molecular biology. Send cover letter, CV, statement of teaching and research interests, and 3 letters of recommendation (one which addresses

(continued on page 165)

(Job Opportunities continued from page 15)

Cell/Developmental/ Neurobiology Search); Benedictine University; 5700 College Road; Lisle, IL 60532. Tel: 630-829-6018. Fax: 630-960-9946. E-mail: employeeservices@ben.edu. Deadline: 11/30/03.

Health, Leisure, & Exercise Science – Department Chair –

Qualifications: Earned doctorate in a program field or related field. Established record in teaching, service, and scholarship/creative activity. Should be an academic leader, capable of establishing contacts with professionals, knowledgeable about current technology, and able to foster collegiality and provide a vision for a diverse multi-disciplinary department. Must have demonstrated managerial experience. Send application letter, CV, photocopies of official transcripts; name, phone numbers, and mailing/e-mail addresses of at least 3 references to Dr. Wayne Williams, Chair; Health, Leisure and Exercise Science Chair Search Committee; College of Fine and Applied Arts; P.O. Box 32060; Boone, NC 28608-2071. E-mail: willwe@appstate.edu. Website: <http://www.hles.appstate.edu/>. Deadline: 1/14/04.

Physical Therapy – Assistant/Associate Professor (2 positions)

– Qualifications: Masters or doctoral degree with area of focus in Orthopaedics (Athletic Training NATABOC preferred) and Neurorehabilitation. Must hold active license to practice as a physical therapist and be eligible for Texas Licensure. Responsibilities: Teaching, research, and service. Other opportunities include Coordination of Clinical Education, and online instruction in transitional Masters Degree Program. Send application packet to Steven Sawyer, PT, PhD; Texas Tech University Health Sciences Center; Department of Rehabilitation Sciences; 3601 4th Street; Rm 2B132; Lubbock, TX 79430. Tel: 806-743-3235. Fax: 806-743-1262. E-mail: steven.sawyer@ttuhsc.edu. Deadline: Until filled.

Athletic Training – Assistant Professor –

Qualifications: Doctorate in Kinesiology, Physical Education, or closely related field. NATA certification. Ability to teach a wide range of courses in athletic training and in one subdiscipline of Kinesiology. Evidence of research ability and/or ongoing scholarly productivity. Responsibilities: Teach undergraduate classes in athletic training. Serve as Clinical Coordinator and assist in the administration of the Athletic Training Education Program. Supervise students in practical settings. Advise undergraduate students. Develop a line of scholarly research focused on athletic training issues. Send application packet to Dr. Carole Oglesby, Chair; California State University, Northridge; Department of Kinesiology; 18111 Nordhoff Street; Northridge, CA 91330-8287. Tel: 818-677-3205. Fax: 818-677-3207. Deadline: Until filled.

Strength & Conditioning – Assistant Professor (Position #149)

– Qualifications: Doctorate in Kinesiology or closely related field. CSCS certification. USA Weightlifting (USAW) Level I (Club Coach Course) certification preferred. Ability to conduct research/scholarly activity. Responsibilities: Teach beginning weight training, intermediate weight training, advanced weight training, analysis of weight training, scientific basis of physical conditioning,

beginning Olympic lifting, and weight training for life-long fitness. Will be involved with CSUS Weight Lifting Team. Send letter of application, official transcripts of all college work, CV, phone # of 5 references, and statement of teaching and scholarly interests to Dr. Fred D. Baldini, Chair; Department of Kinesiology and Health Science; California State University, Sacramento; 6000 J Street; Sacramento, CA 95819-6073. Deadline: Until filled.

Exercise Science – Assistant/Associate Professor (Position #149) –

Qualifications: Doctorate in Biomechanics and/or Motor Control/Behavior. For Associate level applicants, an established, focused research program or potential to establish such a program. Responsibilities: Teach undergraduate and graduate courses in Biomechanics, Motor Control, Research Methods and other areas. Recruit, advise, and train graduate students at M.S. and Ph.D. levels. Seek and obtain external grant support, and maintain national presence in the field. Send letter of application with statement of professional goals, CV, and 3 letters of reference to Dr. Mark Fischman, Search Coordinator; Department of Health and Human Performance; 2050 Beard-Eaves-Memorial Coliseum; Auburn University, Alabama 36849-5323. TEL: 334-844-1465. E-mail: fischmg@auburn.edu. Deadline: 11/24/03.

Sports Medicine/Athletic Training – Department Head –

Send application packet to Dr. Helen Reid; Southwest Missouri State University; College of Health and Human Services; 901 S. National; Springfield, MO 65804. Tel: 417-836-4176. E-mail: HelenReid@smsu.edu. Website: www.smsu.edu/hiresmsu. Deadline: 11/14/03.

Athletic Training – Assistant Professor/Program Director –

Qualifications: Doctorate in Kinesiology, Physical Education, or closely related field. Current NATABOC certification and eligibility for State of Texas licensure are required. Ability to teach a wide range of courses in athletic training and working knowledge of CAAHEP and JRC-AT accreditation process are required. Experience in coordinating an athletic training program at the university or college level, and ability to teach biomechanics or another sub-discipline of kinesiology is preferred. Responsibilities: Develop and coordinate the Athletic Training Curriculum Program. Develop self-study as part of the accreditation process. Teach Athletic Training courses. Supervise Athletic Training Clinical Coordinator. Advise students. Conduct research and participate in scholarly activity. Serve on departmental, college, and university-wide committees. Send letter of application, CV, samples of published writings, official transcript(s) verifying academic preparation, and 3 letters of recommendation to Dr. Jeff E. Goodwin; Department Chair, Department of Kinesiology, Health Promotion and Recreation; The University of North Texas; P.O. Box 310769; Denton, TX 76203-0769. E-mail: JGoodwin@coe.unt.edu. Website: www.coe.unt.edu/khpr. Deadline: 12/1/03.

Other Positions

Strength & Conditioning – Head Coach – Qualifications: Master's or Bachelor's degree in appropriate area of specialization. 2 years experience, college level preferred. CSCS or CSCCA, CPR, and

First-Aid certifications required. Responsibilities: Enhance the physical and mental development of the student-athletes through the use of sport-specific programs that maximize strength, power, and cardiovascular abilities. Develop and monitor rehabilitation programs and post-rehabilitation of student-athletes. Send letter, resume, and 3 letters of reference to Ms. Nancy Tankersley; Athletics; University of North Florida; 4567 St. Johns Bluff Rd. South; Jacksonville, FL 32224-2672. Website: <http://www.unf.edu/dept/humanres>. Start Date: 1/16/04. Deadline: Until filled.

Strength & Conditioning – Assistant Coach (PVA #E00262) – Qualifications: Master's or Bachelor's. 2 years experience, college level preferred. CSCS or CSCCA, CPR, and First-Aid certifications. Be able to perform and teach Olympic lifts. Responsibilities: Assist Head Strength and Conditioning Coach with all aspects of strength and conditioning program for 37 varsity teams. Send letter of application, resume, and names of 3 current references to Human Resources; Brown University; Box 1879; Providence, RI 02912. Tel: 401-863-3175. Website: www.Brown.edu. Deadline: 11/18/03.

Research & Development Engineer to work at Thoratec Corporation in Pleasanton, CA. Qualifications: B.S. or graduate degree in Engineering, with minimum of 5-8 years experience in product development of medical devices. Experience in design of cardiovascular devices preferable. Experience with range of technical activities desirable, including biomaterials, biomechanics, medical and/or chemical engineering. Responsibilities: Perform complex activities related to design, testing and evaluation of cardiovascular devices and related systems and develop technical solutions to complex problems. Perform research and development activities including design concept development and evaluation, engineering analysis, engineering prototyping, materials and component selection, and development of specifications and other documentation. Send resume and salary requirement to HRJobsCA@thoratec.com or fax to 925-847-8626. Contact information: Thoratec Corporation; 6035 Stoneridge Drive; Pleasanton, CA 94588.

Senior Mechanical Design Engineer (Ref Code: DSGN103FL) to work at growing medical device company. Qualifications: B.S. Mechanical Engineering or Bioengineering/Biomechanics Degree, with minimum of 7-10 years experience in new product development. Strong design experience in development and manufacturing environments, preferably in orthopedic devices. Skilled in leadership and people development in a team environment. Demonstrated organizational and project management skills. Knowledge of quality tools such as FMEA, product/process validations, etc. Knowledge of various quality and inspection requirements, manufacturing processes, measurement techniques, and engineering drawing interpretation. Send resume in Word format to elehold@wctel.net.

Category Product Test Supervisor (Ref Code: 004168) to work at Nike in Portland, OR and manage a team of our Category Product Test Analysts and Coordinators and serve as a senior technical testing resource. Qualifications: B.S. in Science, Sensory Analysis, Scientific Test Design and Analysis, Biomechanics, Psychology

or a related analytical field, with minimum of 5 years experience in sensory testing industry and 2 yrs in management. Experience in footwear and in-depth understanding of footwear components, materials and product processes. Experience in development, engineering or product marketing/consumer research. Apply online at www.monster.com.

Development Engineer (Ref Code: 005325) to work at Nike in Beaverton, OR and fulfill seasonal Category development requests for new cushioning components for upcoming Footwear products. Qualifications: B.S. Engineering, Physics, or related field, with minimum of 5 yrs research experience in new product development. Knowledge of polymers. Intermediate-level proficiency with MS Office software. Able to communicate with both technical and non-technical fields. Experience working with 3-DCAD is strongly preferred. Knowledge of footwear manufacturing, biomechanics, physics and plastic manufacturing is strongly preferred. Hands on experience working with plastics testing, part fabrication, prototyping, and/or plastics processing is preferred. Apply online at www.monster.com.

Director of Research (Ref Code: 0018) to work at Disc Dynamics in Eden Prairie, MN. Qualifications: Masters or Ph.D. degree in Mechanical Engineering, Biomedical Engineering, Materials Engineering, Polymer Science, Chemical Engineering, Biology or related field, with minimum of 6 years experience in R&D product design, development, and evaluation. Fundamental knowledge of anatomy, physiology, and biomechanics; surgical experience; knowledge of spinal anatomy is required. Experience with CAD, MS Office, Microsoft Project and other engineering analysis software tools. Responsibilities: Design, manage and conduct research to establish feasibility and justification for the development of spinal implant and accessory devices. Apply online at www.monster.com.

Director of Research & Development Testing (Ref Code: 0018) to work at CyberScientific in Boston, MA. Qualifications: Experience in medical device R&D, spinal biomechanics, Nitinol and PTFE research and development testing, and biologic tissue testing. Responsibilities: Establish effective testing strategy to support development and production of company. Guide and work with the testing staff in the design, development and implementation of mechanical testing of company product. Assist with establishment of research and publication strategy to position the company as the knowledge leader in the intradiscal therapy and spinal soft tissue markets. Send resume in Word, US status (Green Card, Citizen, etc.), current salary, desired salary, and reason for wanting to leave/why left current company to David@CyberScientific.com.

ASB 2004

Michael Bottlang

On behalf of the ASB, I invite you to attend the 28th Annual Meeting of the ASB from September 9–11, 2004, in Portland, Oregon. At the 2003 meeting in Toledo, Vijay Goel, Danny Pincivero, and Rodger Kram clearly raised the bar, providing excellent organization, smooth execution, an outstanding program, and plenty of good food. It will take hard work to match their standard.

The 2004 meeting will be convenient! A light-rail will bring you in 15 minutes for \$1.55 from the Airport to the Doubletree Conference Hotel. At the hotel, all space for meetings, posters, and exhibits is located on the main floor. Just take the elevator



from your room, meet your colleagues for free breakfast, and walk along posters and exhibits to the sessions. Rooms will be offered to conference participants at a discounted rate. A historic trolley leaves every 15 minutes from the Hotel on a loop through downtown Portland—for free. This trolley will also bring us to the Classical Chinese Garden for the ASB banquet, where you can meander through Pavilions, waterfalls, ponds, bridges, and of course the banquet buffets. I strongly encourage you to stay at the conference hotel and take full advantage of this convenient and effective setting.

The 2004 meeting will be inspiring! Portland provides a unique combination of collaborating institutions, which not only span the wide range of disciplines in biomechanics, but which also

cover the entire spectrum from basic science to applied research to development. Local researchers from Oregon Health & Sciences University, Legacy Research & Technology Center, Portland State University, Oregon Graduate Institute, pertinent companies of Portland's "Silicon Forest," and the world-renown NIKE exercise science campus team up to host a highly interdisciplinary and professionally inspiring meeting.

The 2004 meeting will be worth an extra day! Before booking your return flight, you might want to explore post-meeting opportunities. Portland, the 'City of Roses', is surrounded by over 180 wineries and nestled between snow-capped mountains and the scenic Oregon coast.

You can access 2004 ASB meeting information at www.legacyhealth.org/healthcare/research/asbconf.ssi or through the ASB 2004 meeting link on the ASB home page (www.abs-biomech.org) Please feel free to forward any suggestions and comment regarding the meeting organization to me via email at (Mbottlan@lhs.org).

We look forward to seeing you in Portland!



Michael Bottlang, Ph.D.
2004 ASB Meeting Chair



Calendar of Events

Andrew Karduna

IASTED International Conference on BME

February 16–18, 2004, Innsbruck, Austria
Abstract deadline—past
iasted.org/conferences/2004/Innsbruck/biomed.htm

Computer Methods in Biomechanics and BME

February 25–28, 2004, Madrid, Spain
Abstract deadline—past
www.uwcm.ac.uk/biomadrid

Annual Meeting of the Orthopaedic Research Society

March 7–10, 2004, San Francisco, CA
Abstract deadline—past
www.ors.org

International Symposium on the 3-D Analysis of Human Movement

March 31–April 2, 2004, Tampa, Florida
Abstract deadline—December 15, 2003
pe.usf.edu/isb3d/

Restoration of (wheeled) mobility in SCI rehabilitation

April 19–21, 2004, Amsterdam, The Netherlands
Abstract deadline—December 1, 2003
www.ifkb.nl/news/SCIcongress/index.html

Annual Meeting of the Gait and Clinical Movement Analysis Society

April 21–24, 2004, Lexington, Kentucky
Abstract deadline—past
www.amrinc.net/gcma/index.cfm

Rocky Mountain Bioengineering Symposium

April 23–25, 2004, Fort Collins, Colorado
Abstract deadline—past
<http://www.rmbs.org>

World Biomaterials Congress

May 17–21, 2004, Sydney, Australia
Abstract deadline—past
www.tourhosts.com.au/biomaterials/invit.html

Meeting of the American College of Sports Medicine

June 2–5, 2004, Indianapolis, IN
Abstract deadline—past
www.acsm.org

Congress of the International Society of Electrophysiology & Kinesiology

June 18–21, 2004, Boston, MA
Abstract deadline—December 31, 2003
isek2004.bu.edu/call.asp

Conference of the International Shoulder Group

August, 2004, Lisbon, Portugal
www.internationalshouldergroup.org

Biannual Conference of the Canadian Society of Biomechanics

August 4–8, 2004, Halifax, Canada
Abstract deadline—February 2, 2004
www.csb2004.ca

Pre-Olympic Congress: Sport Science Through the Ages

August 6–11, 2004, Thessaloniki, Greece
Abstract deadline—past
www.preolympic2004.com

International Symposium on Biomechanics in Sports

August 9–12, 2004, Ottawa, Canada
www.health.uottawa.ca/isbs2004

Annual Meeting of the International Functional Electrical Stimulation Society

September 6–9, 2004, Bournemouth, United Kingdom
Abstract deadline—May 1, 2004
www.ifessnet2004.tk

Annual Meeting of the American Society of Biomechanics

September 9–11, 2004, Portland, OR
Abstract deadline—April 1, 2004
www.asb-biomech.org

5th Conference on Engineering of Sport

September 13–16, 2004, Davis, CA
Abstract deadline—past
conferences.ucdavis.edu/sportengr

Annual Meeting of the Human Factors and Ergonomics Society

September 20–24, 2004, New Orleans, Louisiana
hfes.org/Meetings/Menu.html

*Congress of the International Society of Biomechanics
Summer, 2005, Cleveland, OH*

*World Congress of Biomechanics
Summer, 2006, Germany*

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NOTE: For a more comprehensive international listing, please visit ISB's website at www.isbweb.org/conferences

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