



# American Society of Biomechanics Newsletter

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[www.asbweb.org](http://www.asbweb.org)

## From the President

**Rodger Kram**

“Appropriate Technology” is a term popularized by E.F. Schumacher in his 1973 environmental book, *Small is Beautiful: Economics as if People Mattered*. According to Wikipedia, appropriate technology involves design with special consideration to the environmental, ethical, cultural, social and economical aspects of the community for which it is intended. Sustainability is a key aspect of appropriate technology. Some students today think that their generation invented the term sustainability, but if you read *Small is Beautiful*, you’ll see that it is a concept that unfortunately many of us never embraced or simply forgot.

Sustainability is important to keep in mind as we attempt to chart the course ahead for ASB. The sustainability of our membership demographics is encouraging. Student membership in ASB is at an all time high, thanks to the efforts of folks like Max Kurz. Student members are converting to regular membership status at a steady rate. This past year, Paul Devita and Andy Karduna have brought membership renewal on-line. With the membership database, we can now systematically invite members who let their dues lapse to rejoin the fold. These are all examples of appropriate technology. The result is that the greatest resource of ASB--bright scientists--is abundant and sustainable.

Economic sustainability of ASB is good if not great. The current economic downturn is in part responsible for a decline in our corporate ASB membership. One alternative is to spend less. Efforts undertaken by the present and past Executive Boards have reduced spending while maintaining function and quality. For example, mailing paper ballots to 500 members used to cost ASB \$2,000 and it cost members \$2,000 collectively to mail their ballots back. Electronic voting now avoids those expenses and has dramatically increased participation, a win-win. The executive board will be soon asking you to formalize electronic voting into the ASB by-laws; please watch your e-mail for a vote on this change.

Unfortunately, the annual ASB scientific meeting cannot be called environmentally sustainable since many of us fly in airplanes to the meeting. Shockingly, the carbon footprint for air travel to the annual ASB meeting is roughly equal to that of 200 Honda Civics being driven 10,000 miles/year! There are ways to mitigate our environmental impact. Thanks to Art Kuo and others, the abstract submission and review process is fully on-line, avoiding the fuel costs associated with mail or Fed-Ex. Also, thanks to Richard Hughes and James Ashton-Miller, NACOB will be the first ASB meeting with abstracts available only via the web.

Having meetings in hub cities reduces both travel costs and carbon emissions, but big cities often incur more expensive lodging, so these locations clash with graduate student culture. Detroit is a hub city, and is a good combination with the reasonable lodging costs in Ann Arbor. Locating meetings within driving distance of many members can have a big impact and Ann Arbor is a great choice in that respect, especially for our Canadian colleagues. Carpooling to the ASB meeting is a necessity for many grad student budgets, and it could be a great way to get to know your local colleagues better. Let’s try to convert Biomch-L into a ride board for NACOB!

Of course, there is the possibility of holding our scientific meeting on-line using multi-media technology. There have been some attempts to raise the quality of such events (see [www.accessgrid.org](http://www.accessgrid.org)), but none has caught on with great enthusiasm. Virtual meetings seem to be inappropriate technology because they clash with social and cultural values. I am looking forward to NACOB this year in large part because it is an intellectual retreat. The annual meeting is a great opportunity to not check your e-mail or crackberry, to not watch tv at night, to not worry about getting the car fixed. The annual meeting is an opportunity to shed *inappropriate* technology and interact intensively with other scientists using your own brain, voice, eyes and ears. So, even though it is not environmentally sustainable, until virtual beer is perfected, I plan to attend NACOB and future ASB meetings because they embody the idea that *Small is Beautiful: Science as if People Mattered*.



## ASB NEWSLETTER volume 21, number 1

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### ASB Involvement

If you are interested in becoming more active in the Society (e.g., serving on a committee or chairing a conference session), contact Max Kurz ([mkurz@mail.coe.uh.edu](mailto:mkurz@mail.coe.uh.edu)), Membership Committee Chair, with your name, address, phone/fax number, email address, and your desired involvement. This information will be included in a database which is periodically updated and distributed to the Executive Board.

### Newsletter Advertising

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:

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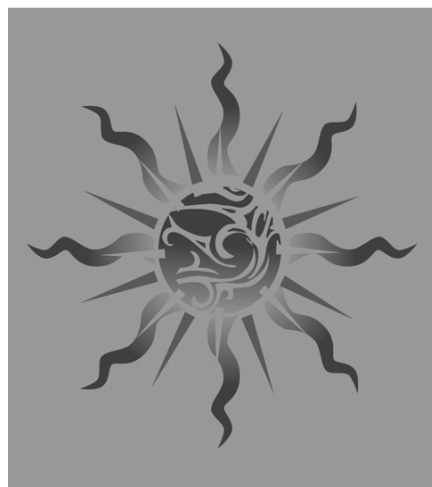
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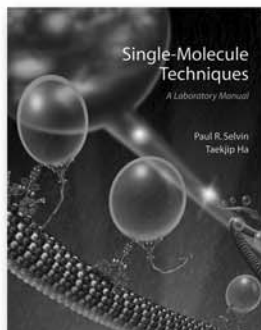
All previous ASB newsletters have been converted into pdf documents and are archived on the ASB website:

<http://www.asbweb.org/newsletters/newsletters.html>



# Single-Molecule Techniques

## A Laboratory Manual



Edited by Paul R. Selvin and Taekjip Ha, *University of Illinois, Urbana-Champaign*

As molecular and cellular biologists move toward nano-techniques for performing experiments on single molecules rather than on populations of molecules, a comprehensive manual on how (and why) to carry out such experiments is needed. *Single-Molecule Techniques: A Laboratory Manual* fills this requirement—it is the first to take researchers who know nothing about single-molecule analyses to the point where they can successfully design and execute appropriate experiments. Geared toward research scientists in structural and molecular biology, biochemistry, and biophysics, the manual will be useful to all who are interested in observing, manipulating, and elucidating the molecular mechanisms and discrete properties of macromolecules. Techniques range from in vivo and in vitro fluorescent-based methods to the use of atomic force microscopy, optical and magnetic tweezers, and nanopores. The book is edited by

Paul R. Selvin and Taekjip Ha, two pioneers in the field of experimental biophysics who have made significant contributions to the development and application of single-molecule technologies.

2008, 507 pp., illus., appendix, index

Hardcover \$240

Paperback \$165

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## Student's Corner

Katie Bieryla

The spring semester is quickly coming to an end which means the next annual ASB meeting is right around the corner. This year the American Society of Biomechanics is joining forces with our biomechanics counterparts from the north to host the North American Congress on Biomechanics (NACOB) which happens once every six years. The University of Michigan, Ann Arbor, will be host to hundreds of biomechanists from August 5 – 9, 2008. Below are some highlights.

The Women in Biomechanics lunch will be held on the first full day of the conference, Wednesday, August 6, 2008. This will be an ideal time for female students to network with other female members. There will be a few speakers from both the ASB and the Canadian Society of Biomechanics (CSB), and plenty of time to mingle. Hopefully, by having it on the first day of the conference, the relationships formed will have time to grow throughout the conference.

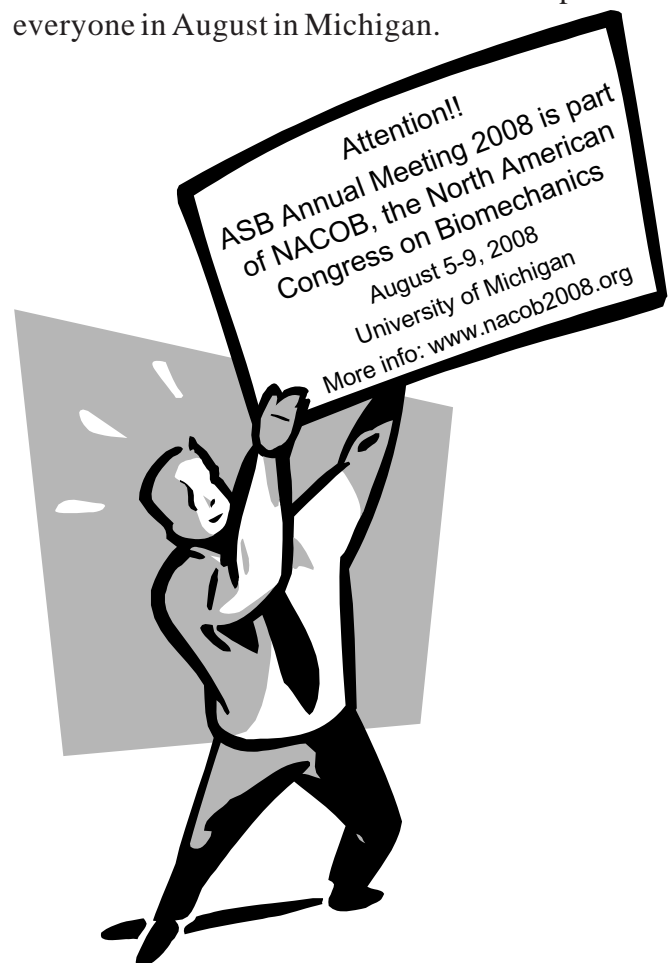
Instead of a student lunch or breakfast, we are going to try something new at this year's conference. On Friday afternoon, we will be holding a mentoring session in conjunction with our CSB counterparts. This is different from the mentor program that is run every year for ASB student members (see next paragraph for more details). During this session, we will have approximately eight different topics with two mentors for each topic. These topics will include finding a post doctoral position, collaborative research, private consulting, job searching and contract negotiation, developing a research program, industry opportunities, clinical research and practice, and working in the USA vs. Canada vs. Europe. This will be an informal setting, allowing students to interact and have numerous discussions. I hope everyone will come to this new event.

Another program that will be continued again this year is the mentor program. In this program, students are paired with a senior scientist. The goal is to encourage interaction between students and senior scientists in an informal setting to discuss career

goals, research, or even life after graduate school. If you are interested in participating, please email me ([kbieryla@vt.edu](mailto:kbieryla@vt.edu)) by June 20 with information on your area of interest, and if there is a particular person you would like to be in contact with. I will do my best to match students and scientists with similar backgrounds.

This annual meeting brings my term as student representative to an end. It has been a great experience and pleasure serving as the student representative. Elections for the new student rep will be run in a different manor this year. We have decided to run the elections in a similar fashion to other positions on the executive board. A few weeks before the NACOB conference, all student members will receive an email directing them to a website to cast their vote for their new student rep. Short biographies written by each candidate begin on page 13 of this newsletter. Please take the time to read about your next potential student rep. The new student representative will be announced during the ASB business meeting Friday August 8, 2008. Good luck to all the candidates!

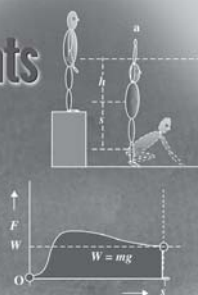
As the NACOB meeting gets closer, be on the lookout for more emails from me. Hope to see everyone in August in Michigan.



# New resources to enhance your study of biomechanics

## Biomechanical Analysis of Fundamental Human Movements

Arthur E. Chapman



### Examine fundamental human movement using a quantitative biomechanical analysis

*Biomechanical Analysis of Fundamental Human Movements* takes a unique approach by focusing on activities and then identifying the biomechanical concepts that best facilitate understanding of those activities. The text's scientific and mathematical focus allows readers to gain an understanding of human biomechanics that will enhance their ability to estimate or calculate loads applied to the body as a whole or induced individual structures.

*Biomechanical Analysis of Fundamental Human Movements* begins with a discussion of the principles of biomechanics and then continues into more advanced study involving the mechanical and mathematical bases for a range of fundamental human activities and their variations. Each activity is analyzed using a specific seven-point format that helps readers identify the biomechanical concepts that explain how the movements are made and how they can be modified to correct problems.

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## BIOMECHANICS of MUSCULOSKELETAL INJURY

William C. Whiting • Ronald F. Zernicke

### Understand the causes of musculoskeletal injury for diagnosis, treatment, and prevention

*Biomechanics of Musculoskeletal Injury, Second Edition*, presents clear, accessible explanations of the biomechanical principles of injury and how injuries affect the normal function of muscles, connective tissue, and joints. Packed with more than 400 illustrations, the text provides a comprehensive examination of these issues:

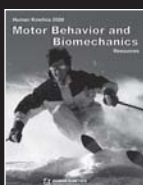
- The mechanical aspects of injury and the concept of injury as a stimulus for beneficial tissue adaptations
- How injury affects the normal function of the human musculoskeletal system
- Mechanical parameters such as force, stress and strain, stiffness, and elasticity
- How connective tissues respond to mechanical loading and how those tissues are studied to quantify their mechanical behavior
- Factors such as age, gender, nutrition, and exercise with emphasis on how lifestyle choices might lessen the chance or severity of injury
- How the principles of mechanical load and overload, use and overuse, level and progression of injury, and the many contributory factors involved in injury combine to form a backdrop for viewing specific musculoskeletal injuries

Ancillary materials for this text include a presentation package and instructor guide.

These materials are free to course adopters and available online at

[www.HumanKinetics.com/BiomechanicsofMusculoskeletalInjury](http://www.HumanKinetics.com/BiomechanicsofMusculoskeletalInjury).

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# Education Committee

Nick Stergiou

As every year, this March I went to Grand Island Nebraska and the Platte River to watch the sandhill cranes as they migrate to the north. Over 500,000 sandhill cranes along with hundreds of thousands of ducks and geese converge on the Platte River. An individual crane spends approximately a month along the river. During that time, it will acquire a pound of fat, which provides the energy to complete the migration. About 90 percent of their diet consists of corn. It has been estimated that the cranes consume nearly 1,600 tons of corn during their stay. It is quite something to watch all these birds fly over your head during sunset as they return from the fields to the river. The cranes' standing posture and mating "dance" are biomechanically amazing. In the mating dance, the pairs initiate a beautiful display of bowing movements with their wings outstretched and leap high into the air while letting out several loud calls. As I was driving back to Omaha, I was thinking all the wonderful things that our society is doing in every aspect of biomechanics. I am really proud to be your Education Committee Chair.

## ASB Graduate Student Grand-in-Aid Program

The Grant-in-Aid program received a record fourteen applications! It is really exciting that this program keeps growing and the ASB Executive Board will work hard to generate more funds in the future to support more than the five applications that we will fund this year. I would like to thank the committee members for their thorough review of the very competitive applications. All applications were ranked based on background, significance, methods, budget, and candidate. The committee members are: Dr. David Vaillancourt (University of Illinois at Chicago), Dr. Evangelos Christou (Texas A&M University), Dr. Jianhua (Jerry) Wu (Georgia State University), Dr. Doug Powell (University of Texas at Permian Basin) and student rep Melissa Scott-Pandorf (University of Houston). I did not vote or provide any rankings, since two of my students applied for the program.

The ASB Executive Board is pleased to announce funding for the following projects:

Sara Myers, University of Nebraska Medical Center: *The effect of aging and vascular occlusion on variability in gait patterns.*

John Popovich, University of Southern California: *Lumbopelvic kinematics, muscle activation and load sharing in the presence of diminished hip muscle performance.*

Jessie Huisinga, University of Nebraska Medical Center: *Classification of movement characteristics of multiple sclerosis patients following an exercise training intervention.*

Joaquin Barrios, University of Delaware: *Gait retraining in asymptomatic individuals with genu varus alignment.*

Chandra Lloyd, University of Delaware: *Muscle strength and gait asymmetry in unilateral, trans-tibial amputees.*

The next deadline for this increasingly competitive program will be January 15, 2009. Details on the application process will be posted on the ASB website and provided in the fall newsletter.

## Regional Student Meetings

The ASB Executive Board supported four regional meetings for this year: a) the South East American Society of Biomechanics Regional meeting at Birmingham, Alabama, b) the Northwest Biomechanics Symposium at Boise, Idaho, c) the South Central American Society of Biomechanics Regional meeting at Odessa, Texas, and d) the Southern California Conference on Biomechanics at Thousand Oaks, California. I had the pleasure of attending the meeting at Odessa Texas and I was really impressed by the quality of the presentations by the students and the overall organization. I am confident that this is another marvelous ASB program that keeps growing.

The next deadline for an application to host a regional meeting will be September 30, 2008. Maximum financial support for a meeting is \$2,000 and the ASB can support up to four regional meetings each year. A regional meeting can be hosted between December 1<sup>st</sup> and May 31<sup>st</sup>, as not to interfere with the ASB annual meeting. For the immediate future, priority will be given to proposals coming from regions that have not previously hosted a meeting. Proposals from previously funded regions will be awarded on a first arrive, first funded basis. Sponsors of a new regional meeting should specifically include ASB in the title (i.e. Midwest regional ASB meeting). If you are interested in serving as a host, contact me ASAP and we can get your application process underway.



## Tutorials/Workshops at NACOB

I am especially excited about the tutorials and workshops that we are going to have at this year's annual meeting. I worked closely with Drs. Hughes and Ashton-Miller from the University of Michigan to line up excellent scientists presenting important topics that make it worthwhile to come early to Ann Arbor to attend. Dr. Kuo will give a lecture and significant hands-on experience on "*Dynamic Walking: Analytical and Computational Methods*". Drs. Redfern and Goldstein will provide a tutorial on "*Successful Grant Writing in the USA*". As promised by the presenters, this workshop will focus on K and F awards at the NIH, so it will have a student focus. Dr. Vaillancourt will provide a workshop on "*Structural and Functional Neuroimaging in Humans*". This especially interesting workshop will merge neuroscience and biomechanics in a unique way. Dr. Delp will have a workshop on OpenSim and, considering the number of downloads for this program, this is a must for many biomechanists. Lastly, an excellent team of scientists from the Mayo Clinic (Drs. Chen, Domire, and An) will bring together biomechanics and muscle physiology in a tutorial about "*MR Elastography and its Applications on Characterization of Skeletal Muscle*". As you can see, you have to get to the annual meeting at Ann Arbor early this year. I will. These tutorials are an opportunity not to be missed.

It is not too early to plan a tutorial or a workshop for the 2009 annual meeting. I welcome your submission of names and topics of potential tutorials for 2009.

## Conclusion

As the sandhill cranes flew over my head flocking back into the Platte River at sunset, I was thinking about all the biomechanists that will flock to Ann Arbor for NACOB. I can't wait for the meeting. See you there and, as Dr. McCaw used to say, "*bring a colleague, bring a friend, bring a student*"!



## Secretary/Treasurer

Paul DeVita

So far, so good. I have been the Secretary-Treasurer for eight months and ASB is still in business. My major effort for the Society has been implementing the online database system. The system is fully operational at this time and it is running with very few errors. Occasionally the system is not able to return a member's username and password to a usable email address. This error is infrequent now, but if it should happen to you please do not hesitate to contact me ([devitap@ecu.edu](mailto:devitap@ecu.edu)). As you know, I have been pushing the online system. However, if you need to renew or start a membership by check, please let me know and I will send you the renewal form.

As of March 31, 2008, ASB had investments totaling \$147,212 and \$17,216 in the bank (much of it spent already). Unfortunately, we are experiencing a somewhat slow rate of member renewals. As of April 14, 373 regular members and 142 student members have renewed for 2008. These numbers represent 75% and 80% of the registered regular and student members in 2007. Overall, they lead to a ~25% reduction in our readily available operating funds. Admittedly, we are only through 33% of 2008, suggesting we may easily reach full renewal this year. But here's the sticky part: most of our expenses arise in the Spring. Among these are the regional meetings, the student research awards, and the midyear meeting of the Executive Board, which together total close to \$27,000 or about 35% more than the amount of renewal funds received this year. Oooh, that's bad.

The ASB normally operates at the break-even point, bringing in and spending ~\$35,000 per year. This year, however, we need the membership to complete the renewal process in a timely manner to avoid spending our investments. I kindly ask those members who have yet to renew...to renew. You can do so at the database access website: <http://asbmem.org/>. Early renewals also affect your journal subscriptions. The agreement with Elsevier, for example, is that the subscription runs on the calendar year. If you renew and subscribe in January, you get January-December issues. If you renew later however, the subscription will only complete the current year while providing you with back issues for the year. Isn't it more exciting to receive current than past journals? OK, OK, I'll relent.



On a related topic, I recently received a letter from a member who had serious misgivings about the online database system. The major issue was the security of the database. The member thought the membership database was on my university system and was maintained by me. Let me assure you this is not the case. The system was developed and is maintained by Openwire/Member IT, a professional online services company specializing in online registration and payment systems. Other than Max Kurz, ASB Membership Chair, and me, no university faculty, students, or staff have access to the database. The database and all related information are stored on the Openwire/Member IT secured system. I have also made sure not to store any ASB information about access to the database, PayPal or related sites on any computer I have. All my password and other access information (e.g. security questions and answers) are stored in my office file cabinet. No one is looking there. In fact, I hardly look into my file cabinets myself, and you are safe from me.

See you at NACOB in Ann Arbor. I will try to be more upbeat in future newsletters.

## Past-President Kenton Kaufman

As Past-President, I serve as the Chair of the Awards Committee. I invite and urge you to consider submitting an application for the **ASB Travel Award**. All ASB members are eligible to apply. Travel and lodging costs are covered. Budget requests may be up to \$1,000. Matching funds from the candidate's or host's institution are desirable, but not required. Applications must include a cover letter, current curriculum vitae, letter from host indicating support for the travel, a synopsis (2 pages maximum) describing the purpose of the travel, and a detailed budget with justification. A short report (1 page maximum) explaining the significant outcomes of the travel must be submitted following the completion of the travel (to be published in the ASB newsletter). All application materials must be submitted electronically (Word document or PDF) by email to the ASB Past-President by June 30, 2008. If surface mail is used, the application package must also be received by June 30, 2008. Information on all of the ASB Awards can be found on our website (<http://www.asbweb.org/html/awards/awards.html>).

My contact information is provided below. Good luck to everyone!

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## A View From the Blue Michelle Sabick

If you have actually read this far into the newsletter, you may have seen my report about the regional ASB meeting that I just hosted (on page 12). Even as a "recovering meeting host", I honestly recommend regional meetings to all of you. I became a believer four years ago when the Northwest region hosted its first "official" regional meeting in Seattle. During one of the breakout sessions between scientific talks I met a researcher who I had known by reputation but never met. It turned out that same researcher works just a few hours drive from me, which, by Western standards, means that we are practically neighbors!

Since then, I have had similar experiences at meetings in Vancouver and Boise. In addition to meeting fabulous researchers and potential collaborators in my own back yard, the regional meetings have given me a relatively inexpensive way to introduce my students to scientific presentations. Since the regional meetings are student-centered, giving a podium presentation is a little less intimidating than at the national meeting. This is especially important for undergraduates who have never presented before a scientific audience and are not *really* sure what is expected of them.

The student presenters never cease to amaze me with their scientific knowledge and grace under pressure at regional meetings, and I always learn something by watching and listening. So, if you have never attended a regional meeting before, I urge you to give it a try. And if you have been thinking about hosting, I would definitely recommend it. You know that if I can recommend organizing a meeting just a couple weeks after hosting one myself, it either must be really worthwhile, or I must think you're all exceedingly gullible. Trust me, it's the former case that's true.

## NACOB 2008

**Richard Hughes & James Ashton-Miller**

The 4<sup>th</sup> North American Congress on Biomechanics (NACOB 2008) will be held in Ann Arbor, Michigan, from August 5<sup>th</sup> to August 9<sup>th</sup>. NACOB is a joint meeting of the American Society of Biomechanics (ASB) and the Canadian Society for Biomechanics (CSB).

Nearly 600 abstracts were submitted, providing the basis for a strong and exciting scientific program. The program will feature four parallel podium tracks and poster sessions. In addition to laboratory tours, tutorials, and an opening reception on Tuesday the 5<sup>th</sup>, the Congress will feature one keynote lecture on each of the following four days: John DeLancey, M.D. (*"On the Challenge of Vaginal Birth"*), Mimi A.R. Koehl, Ph.D. (*"Locomotion in a Turbulent World"*), Steve Scott, Ph.D. (*"The 3 B's of Motor Control: Behavior, Brains, and Biomechanics"*), and Jaap van Dieën, Ph.D. (*"Low Back Injury: From Workplace to Lab and Back"*).

There will be four symposia: occupational biomechanics, automobile safety, the Oscar Pistorias decision, and locomotion (in honor of the late Aftab Patla). A number of awards will be presented and more than 18 vendors will exhibit their latest technology for biomechanics research. The Banquet will be held at the Henry Ford Museum. For more information on NACOB2008, please visit the Congress website at <http://www.nacob2008.org/>.

Abstracts will not be available in the printed proceedings (to lower our carbon footprint), so it is highly recommended that you purchase the \$7.50 WiFi/internet option when you preregister so that you can view/search abstracts online during the meeting.

We look forward to seeing you in Ann Arbor.

James Ashton-Miller,  
Meeting Chair

David Andrews and Richard Hughes,  
Program Co-Chairs



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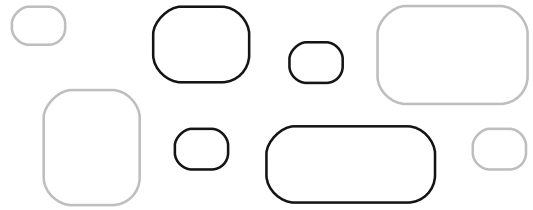


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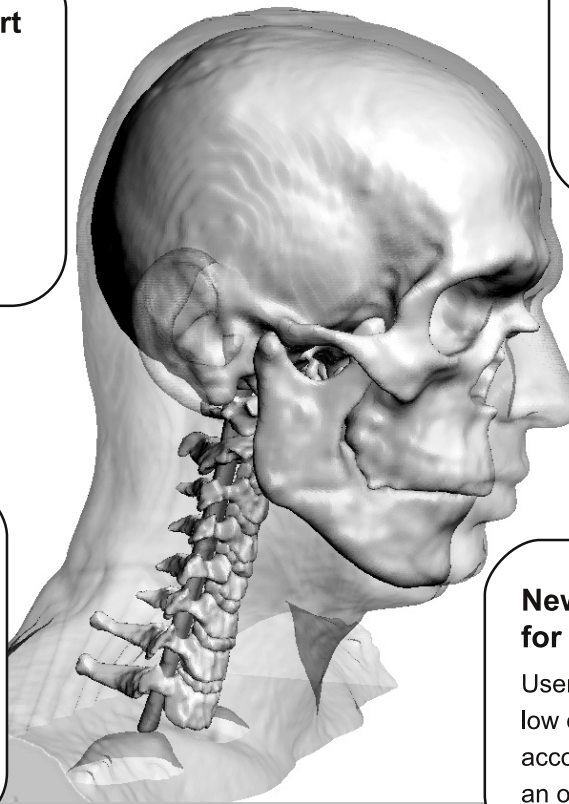
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## Northwest Regional Conference 2008

The 2008 Northwest Biomechanics Symposium (NWBS), the northwest regional ASB meeting, was held at the Boise State University on May 9-10, 2008. A total of 38 scientific presentations from 4 US states, 1 Canadian province, and Taiwan were included in the program. More than 80 participants from 17 different research laboratories, local corporations, and international vendors attended the symposium.

There were 5 podium sessions, 2 poster sessions, and 2 round table discussions during the symposium. Sessions included Locomotion, Spine, Sport, Musculoskeletal, and Human Factors. For the round table discussions, attendees were divided into small groups of 8-10 to enhance interactions among individuals in discussions on selected topics in biomechanics. The symposium was highlighted by the ASB Keynote address, delivered by Dr. Scott Delp of Stanford University. His talk, entitled "*Digital Humans: From Biomechanical Models to Simulated Surgery*", demonstrated some of the amazing results possible when applying of biomechanical modeling

techniques to clinical problems. Concluding the first day of the meeting, a dinner banquet was held at the Alan Noble Hall of Fame overlooking Boise State's fabled blue turf football field.

The awards for best podium presentations, sponsored by MEA Forensic Engineers & Scientists Ltd., went to Robyn Newell of the University of British Columbia for her talk *Differentiating Between Asymptomatic and Osteoarthritic Gait is Influenced by the Characterization of the Knee Adduction Moment*, and Sampath Gollapudi from Washington State University for his presentation *Experimental Determination of Sarcomere Force-Length Relationship in Type-I Human Skeletal Muscles*.

We sincerely appreciate the ASB, the Boise State University Colleges of Engineering and Education, the Departments of Kinesiology and Mechanical & Biomedical Engineering at Boise State, Tekscan, Bose, Motion Analysis Corp., MEA Forensic Engineers and Scientists, and VA RR&D for their generous financial support. We look forward to seeing you again at the 2009 symposium, to be held at Washington State University in the beautiful Palouse region of eastern Washington.



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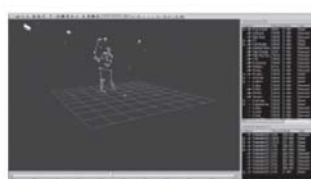


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# Student Representative Candidate Bios

## **Christopher John Arellano**

I would like to be your next student representative to help to improve membership of minorities and women in the ASB and also to increase the student representation at every ASB conference. I am a Ph.D. student at the University of Houston and my major is Kinesiology with an emphasis in Motor Control and Biomechanics. My mentor, Dr. Max Kurz, and I are currently conducting research toward understanding the effects of Parkinson's disease on gait stability. I recently attended my first ASB meeting at Stanford University on August 22-25, 2007. It was a great experience for me because I had the privilege of meeting other students and professors with similar research interests. As a student representative for the ASB, I would like to promote scholarships that fund students to attend ASB conferences each year. I would work to receive corporate and government donations or sponsorships for students, specifically women and minorities, who are presenting their research at the ASB conferences. I would also like to organize workshops that are geared toward helping graduate students communicate their research. For example, one workshop would include a professional and academic writing workshop to help students learn the key skills of writing scientific articles and publishing their research. These workshops could be headed by well-respected researchers that are highly successful at getting their research published. Another workshop would help inform students and new professors on grant and funding opportunities available through NIH and NSF. These are some of the ideas that I bring to the ASB. I would be honored to serve as your student representative for the next two years.

## **Scott Breloff**

This fall I will be starting my doctoral studies at the University of Oregon pursuing a degree in Biomechanics. I completed my undergraduate degree from the University of Pittsburgh in physical sciences for biomechanics and am completing my M.S. from the University of Mississippi in exercise science with an emphasis in biomechanics. My research interests lie mostly with human gait, specifically gait analysis which might have human factor and ergonomic applications. I am traveling to Birmingham, AL at the end of April to give a podium presentation on my thesis research data at the Southeast ASB meeting, which will be my first ASB affiliated meeting. As

student representative I would like to focus on increasing student membership, both upper level undergraduates and graduate students. I know I would have benefitted by knowing about the organization much earlier on in my career. More importantly I would like to develop, under the student section of the ASB website, a database for all departments who offer degrees in biomechanics. This would allow interested students the ability to 'quick search' departments, ongoing research and identify faculty they might be interested in working with. Furthermore, at the meeting, set aside a room and time for faculty to plug their department in order to better recruit graduate students. I would also like to allow undergraduate students to attend this session so both they and graduate students would have the opportunity to speak with people they might be working with before they apply to graduate school. This would strongly complement the mentor program which was started at the 2007 ASB meeting at Stanford.

## **David Dominguese**

I'm a second year Ph.D. student at Ohio University in an Individual Interdisciplinary Program with the content areas of Biomedical Science, Athletic Training, and Education. I completed a M.S. at Illinois State University in 1998 working with Dr. Steven McCaw conducting research in drop landings and ground reaction force. I'm continuing with this type of research and my focus is the effects of lower extremity fatigue on ground reaction force during drop landings. As the student representative, I would like to increase the number of student members in the organization and enhance the field of Biomechanics.

## **Becky Fellin**

Hi! I'm a second year MS/PhD student at the University of Delaware in the Biomechanics and Movement Science program. My undergraduate degree was in biomedical engineering from Rensselaer Polytechnic Institute, or RPI as it is better known to students and alumni. I currently am finishing my MS thesis, which examines treadmill and overground running. The other research project I am working on is a modeling study involving runners at high risk of stress fractures pre and post an intervention. I've attended ASB meetings for the last three years both as an undergraduate and graduate student. From these experiences, I believe the meetings greatly benefit the students who attend from both scientific learning and forming friendships with other students and future colleagues. Personally, I have enjoyed the student mentoring programs and women in science luncheons, and believe these activities should

continue. However, I also believe it would be good to have an inclusive get together for students to meet and greet each other during the conference, either during a group lunch, at one of the evening receptions or even during a coffee break between sessions. I believe I can draw on my past experiences at ASB meetings to maintain and expand the high caliber student activities started by previous representatives.

### **Julia Freedman**

I am finishing my first year of doctoral study in Biomechanics at the University of Tennessee. I completed my Masters degree at the University of Nevada, Las Vegas where I spearheaded many projects focusing on lower extremity biomechanics during landing and running activities. I have continued to investigate this line of research since arriving at Tennessee. My research interests are in investigating *how* we choose to run in order to prevent injury. I am looking forward to attending and presenting at the Southeastern Meeting of ASB and am hoping to present at this year's NACOB meeting. I am extremely eager to become more involved in the ASB organization. Noting that ASB is already undertaking efforts to create substantial incentives for students to join, I believe that it is important that we continue and grow these efforts. One of my first goals if elected as student representative would be to increase students' exposure to ASB to ensure that they take advantage of the student benefits offered by an ASB membership. Additional goals would be to implement programs, and add resources, that are geared towards students. For example, I would like to continue the work begun by Katie Bieryla to compile a list of graduate programs in biomechanics that would be accessible on the ASB website. I would also like to create a job search database available to students through ASB. Not only would this increase the resources available to students, but also increase traffic to the ASB website. Moreover, it would increase ASB's exposure to students, and hopefully enable ASB to retain students as lifelong members. I look forward to the opportunity to take on an active role in the Society, and to work more closely with the professional leadership if elected as the student representative for ASB.

### **Sara Myers**

I am a first year doctoral student at the University of Nebraska Medical Center and am majoring in Biomechanics and Motor Control. My research interests are primarily on gait in elderly and pathological populations. Specifically, I want to examine quality of life problems that occur in elderly

in order to improve knowledge of disorders, evaluate efficacy of treatment methods, and design effective rehabilitation programs specific to the population. I want to contribute with my research in the improvement of clinical and rehabilitation practices for elderly and pathological populations. Last year I was able to present some of my research at my first ASB conference at Stanford University, and I look forward to attending the NACOB meeting in August. If elected as your student representative for ASB, I will promote interaction between fellow students and professional members alike. Additionally, I will work to develop additional programs for student members to assist with career planning and with the transition from student to professional. Thank you for your consideration. I will see you in August.

### **Elizabeth Russell**

I am currently a doctoral student in the Biomechanics Laboratory at the University of Massachusetts in Amherst. I received my BS from the University of Delaware in Exercise Science. I am finishing my first year as a doctoral student with Joseph Hamill and my research interests include lower extremity injury prevention in aging and obese populations. Specifically, I have focused on osteoarthritis and the metabolic cost of locomotion. As an undergraduate, I went to my first ASB meeting in Portland in 2004 because my advisors thought I would find it inspiring. I did, and have been attending local and national meetings since. I sincerely enjoy working in this field and have appreciated the feedback I have gotten on my research and career path at these meetings. If elected student representative my general goals are to voice the concerns of the group and aid students in various ways. I would like to reinstitute a webpage for students to organize the universities and colleges that offer biomechanics programs, the interests of the faculty members, and contact information for different graduate students within those programs. We are valuable resources for each other and opening the lines of communication is a necessary step towards developing a network that can aid us throughout careers. I would also aim to create a student-based committee that would allow me to increase communication with fellow students and to exchange ideas and concerns so I can better represent my fellow peers at the executive committee meeting. The good nature among this field certainly allows a future student representative to incorporate a variety of activities and entertainment into the meetings. I hope to have the opportunity to be a creative and productive representative for our student body.

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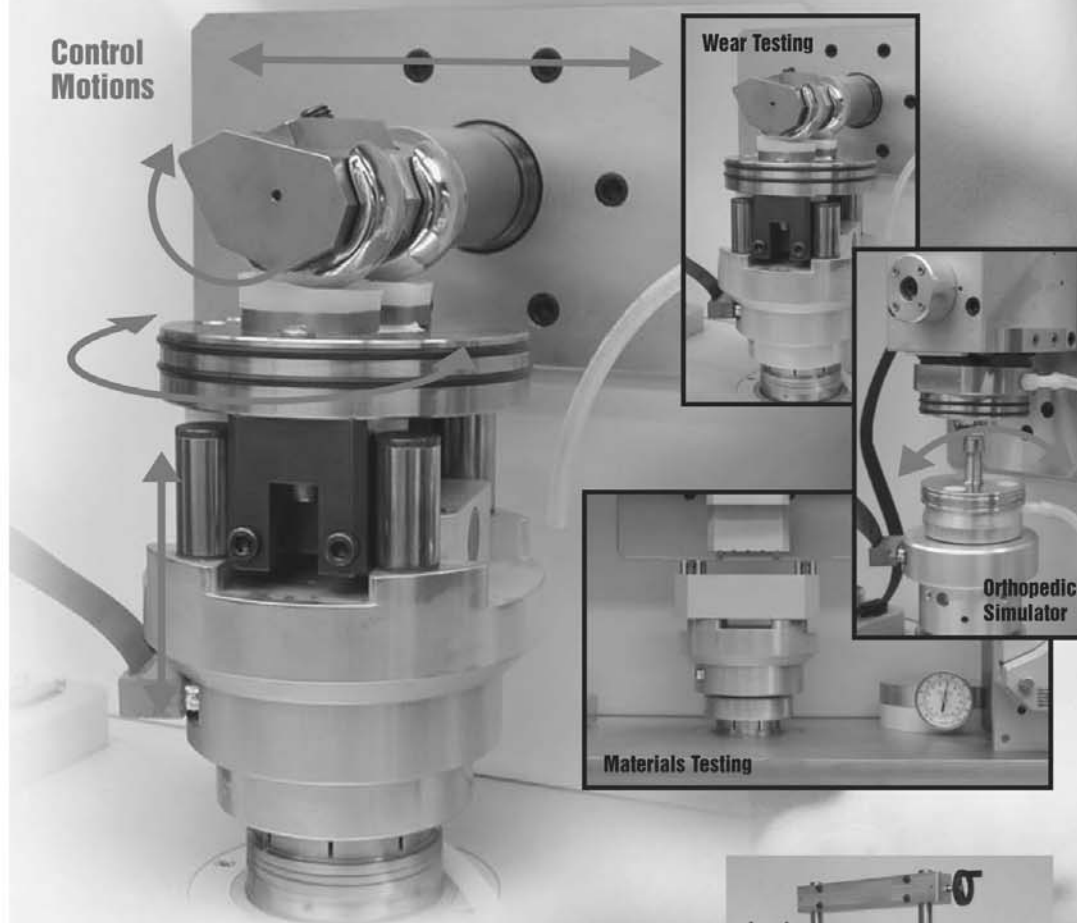
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North American Congress on Biomechanics

# 2008

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*NACOB 2008 is the combined annual meetings of the American Society of Biomechanics and the Canadian Society of Biomechanics. This combined meeting is held once every six years to promote scientific exchange and to foster collaboration among those interested in all aspects of biomechanics.*

**[www.nacob2008.org](http://www.nacob2008.org)**

**Meeting Chair:** James A. Ashton-Miller, Ph.D., *University of Michigan*

**Program Co-Chairs:** Richard E. Hughes, Ph.D., *University of Michigan*  
David Andrews, Ph.D., *University of Windsor*

# Calendar of Events

William Ledoux

## **International Society of Electrophysiology and Kinesiology**

June 18 - 21, 2008, Niagara Falls, Ontario, Canada  
Abstract deadline - past  
[www.isek2008.ca/default.asp](http://www.isek2008.ca/default.asp)

## **American Society of Mechanical Engineers**

June 25 - 29, 2008, Marco Island, Florida  
Abstract deadline - past  
[divisions.asme.org/bed/events/summer08.html](http://divisions.asme.org/bed/events/summer08.html)

## **European Society of Biomechanics**

July 6 - 9, 2008, Lucerne, Switzerland  
Abstract deadline - past  
[www.esb2008.org](http://www.esb2008.org)

## **International Society of Biomechanics in Sports**

July 14 - 18, 2008, Seoul, South Korea  
Abstract deadline - past  
[www.isbs2008.org](http://www.isbs2008.org)

## **North American Conference on Biomechanics**

**Date: August 5 - 9, 2008, Ann Arbor, Michigan**  
**Abstract deadline - past**  
**[www.nacob2008.org](http://www.nacob2008.org)**

## **IEEE Engineering in Medicine and Biology Society**

August 20 - 24, 2008, Vancouver, Canada  
Abstract deadline - past  
[www.embc2008.com](http://www.embc2008.com)

## **International Foot and Ankle Biomechanics Congress**

September 4 - 6, 2008, Bologna, Italy  
Abstract deadline - past  
[www.i-fab.org/ifabconference.htm](http://www.i-fab.org/ifabconference.htm)

## **Computational Biomechanics for Medicine**

September 10, 2008, New York, New York  
Abstract deadline - past  
[www.mech.uwa.edu.au/CBM2008](http://www.mech.uwa.edu.au/CBM2008)

## **European Society of Movement Analysis for Adults and Children**

September 11 - 13, 2008, Antalya, Turkey  
Abstract deadline - past  
[www.esmac.org](http://www.esmac.org)

## **International Council on Biomechanics of Injury**

September 17 - 19, 2008, Bern, Switzerland  
Abstract deadline - past  
[www.ircobi.org](http://www.ircobi.org)

## **Human Factors and Ergonomics Society**

September 22 - 26, 2008 New York, New York  
Abstract deadline - past  
[www.hfes.org/web/HFESMeetings/meetings.html](http://www.hfes.org/web/HFESMeetings/meetings.html)

## **3D Analysis of Human Movement**

October 28 - 31, 2008, Santpoort-Amsterdam, the Netherlands  
Abstract deadline - past  
[www.3dma-08.org](http://www.3dma-08.org)

## **Congress for Medical and Biomedical Engineering**

November 23 - 27, 2008, Antwerp, Belgium  
Abstract deadline - past  
[www.mbec2008.be](http://www.mbec2008.be)

## **International Conference of Biomedical Engineering**

December 3 - 6, 2008, Singapore  
Abstract deadline - July 30, 2008  
[icbme2008.confcs.org](http://icbme2008.confcs.org)

## **Orthopaedic Research Society**

February 22 - 25, 2009, Las Vegas, Nevada  
Abstract deadline - August 18, 2008  
[www.ors.org](http://www.ors.org)

## **American Academy of Orthotists and Prosthetists**

March 4 - 7, 2009, Atlanta, Georgia  
Abstract deadline - July 31, 2008  
[www.oandp.org/meeting2009](http://www.oandp.org/meeting2009)

## **Gait and Clinical Movement Analysis Society**

March 10 - 14, 2009, Denver, Colorado  
Abstract deadline - tba  
[www.gcmas2009.org/3.html](http://www.gcmas2009.org/3.html)

## **American College of Sports Medicine**

May 27 - 30, 2009, Seattle, Washington  
Abstract deadline - June 20, 2008  
[www.acsm.org](http://www.acsm.org)

## **International Society for Posture and Gait Research**

June 21 - 25, 2009, Bologna, Italy  
Abstract deadline - tba  
[ispgr.org/conferences/italy-2009/conference-overview/index.html](http://ispgr.org/conferences/italy-2009/conference-overview/index.html)

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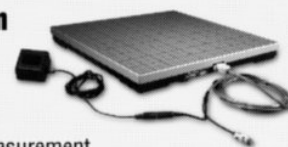
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