

American Society of Biomechanics Newsletter

Vol. 14

June 2001

No. 1

www.asb-biomech.org

From the President

James A. Ashton-Miller

Welcome to San Diego in August!



Allow me to extend a warm welcome to the 25th Annual Meeting of the American Society of Biomechanics to be held in

San Diego, CA from August 8 – 11, 2001. Our Meeting Chair Rick Lieber and Program Chair Walter Herzog have put together an outstanding meeting for us to enjoy on the UCSD campus. In particular, they have arranged a series of exciting invited and contributed presentations on muscle mechanics that should be of wide interest, a practical tutorial on molecular biology, as well as many opportunities to exchange scientific ideas.

As many of you will know, the last half year has brought the creation of the National Institute of Biomedical Imaging and Bioengineering (NIBIBE) at the National Institutes of Health (see “Newest member of the NIH Family,” *SCIENCE*, vol. 291, 2 March 2001, page 1701). Fiscal year 2002 will be the first full year of the institute’s operations. Your suggestions for research opportunities that should be addressed by the new institute may be sent to shuchien@ucsd.edu, with a copy to the AIMBE Washington office at kwoaimbe@aol.com.

You may be interested in the on-going discussion concerning the nation’s changing needs for biomedical and behavioral scientists. More information concerning the NIH response to the recent National Academy of Sciences report may be found on <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-01-027.html>.

I look forward to seeing you in San Diego this summer.

From the 2001 Meeting Chair

Richard L. Lieber

Plans are in place to host the 25th Annual American Society for Biomechanics meeting in La Jolla at the University of California, San Diego campus. Great on-campus accommodations are available as well as local upscale hotels. The laboratories are in place to teach basics of molecular biology as well as muscle mechanics. Our banquet at the Scripps Aquarium should be fabulous with the Pacific Ocean as a backdrop. Finally, based on the excellent quantity and quality of abstract submissions, the scientific atmosphere should be super-charged! We look forward to providing you with a wonderful scientific experience.

See pages 6 and 7 for Program information, and page 22 for a registration form. Alternatively, visit the meeting website at: www.asb-biomech.org/conference01/conference.htm

In this issue . . .

	page
From the President	1
From the Secretary/Treasurer	2
Education Committee Report	3
Students' Corner	5
Program Committee Report	6
Communications Committee	9
Guest Columnist – Fitness Testing	10
Editorial	12
Calendar of Events	15
Job Opportunities	16
Annual Meeting Registration	22

From the Secretary/Treasurer

Robert Shapiro

This is my last column as Secretary/Treasurer. Let me say it has been a pleasure to serve ASB in this capacity. Over the past three years we have significantly upgraded our support capabilities through the implementation of a membership database and procedures to allow us to accept credit cards. While we still have some problems with journal delivery we have reduced those numbers considerably. I want to especially thank Jill Carson Frank and Becky Ferguson for their assistance over the past three years. While I will miss those eight-hour Executive Board meetings I am happy to report that we have two very capable candidates who have agreed to run for the position. The Executive Board is also proposing a change in the by-laws to add a Secretary/Treasurer-Elect position to be filled in the year prior to the expiration of the current Secretary/Treasurer's term. You will find more information about this later on in this column.

Membership and Elsevier update: As of April 30, 2001 575 members have paid 2001 dues. This is comparable to last year's pace. I am happy to report that we have had very few journal problems this year. If you have problems with your journal subscription please contact me (rshap01@pop.uky.edu). President Ashton-Miller is currently negotiating with Elsevier concerning our relationship with them and journal rates for the next three years. We will have more news about this at the annual business meeting in San Diego.

ASB Newsletter Editorial Board

Editor/Layout

Don Anderson
ander284@umn.edu

Calendar

Andrew Karduna
karduna@drexel.edu

Students' Corner

Jeremy Houser
jjhouser@bayou.uh.edu

Job Opportunities

Kathy Browder
browderk@access.etsu.edu

Advertising

Peter Vint
peter.vint@researchintegrations.com

Finances: We had both good and bad news on the financial front. As you know the stock market suffered a significant decline during 2000. As a result the value of our investments has declined approximately 16% to \$90,304. However, most pundits are predicting an upturn in the market for later this year and in fact our investments are showing increases over the past two months. We did cash in our T. Rowe Price Certificate and an American Express certificate, totaling \$10,000 to cover unexpected expenses from the 1999 and 2000 annual meetings. The good news is that after all bills were paid for the 2000 meeting the society realized an income \$5,766. greater than our expenses. Special thanks to Dr. Raghu Natajaran, the conference chair for all his work. We would also like to thank the RIH Orthopaedic Foundation for their \$6,000 donation to help support the 2000 meeting. A quick update on credit card usage, this year we had 175 members use a credit card, a slight increase from last year. Our expenses remain at about \$3 per credit card charge.

Elections – New Officers: This year we will be electing a President-Elect, Secretary/Treasurer and Program Chair-Elect. The nominating committee chaired by Melissa Gross has provided an outstanding set of candidates. The nominees are:

President-Elect - Joan Bechtold and Trey Crisco

Secretary/Treasurer - Ted Gross and Mark Redfern

Program Chair-Elect - Rodger Kram and Irene McClay

Biographical information is available on page 20.

By-law changes: This year the Executive Board is proposing two changes to the By-laws. The first change creates the position of Secretary/Treasurer-Elect. This would be a one-year elected position, with a vote by the membership for this position to be held in the year preceding the last year of the current Secretary/Treasurer's term. The elected Secretary/Treasurer-Elect would begin his/her term as a voting member of the Executive Board at the first Executive Board Meeting preceding the Annual Business Meeting of the Society. The term would end one year later at the first Executive Board Meeting held at the subsequent Annual Meeting; at which time the Secretary/Treasurer-Elect would become the Secretary/Treasurer for a three-year term, assuming the same duties as those currently held by the Secretary/Treasurer.

The Executive Board is also proposing that the Newsletter Editor become a voting member of the Executive Board. The newsletter is, next to the annual meeting, the most expensive and extensive activity engaged in by the society. The editor attends all board meetings and the board believes the membership will be best served by having the editor as a voting member.

The specific changes to the by-laws are detailed in the enclosed voting information. The changes will be in Article 5 dealing with officers of the society and Article 7 dealing with the Executive Board. It is the strong feeling of the Executive Board that these changes will greatly enhance the day-to-day operation of the society.

As we have stated before, it is essential to the operation of the society that members take an active role. Please remember to **VOTE and MAIL** your ballots. We have included an addressed

envelope for your convenience. Place your ballot in the envelope, apply the necessary postage and please mail your ballot. We will announce the results at the annual meeting in San Diego. If you did not receive a ballot please contact me.

Election Deadline: The deadline for receipt of your ballot for this year's election is July 27, 2001.

Directory: Included in this mailing will be the 2001-2002 ASB membership directory

Reminder: If you have any questions or concerns about your membership, journal subscriptions or other society related business please contact me (rshap01@pop.uky.edu or 859.257.9795).



Education Committee Report

Julianne Abendroth-Smith

Just as roles of the executive board members continue to evolve over time, opportunities for ASB members continue to expand and grow. Isn't that what evolution is all about? We have grown taller and wiser since our early ancestors and we continue to expand over time, though it seems primarily in our waistlines these days. But rather than talk about food for that growing waistline, the role of the education committee is expanding in terms of food for your mind, by way of learning.

One continuing role has been to help organize pre-conference tutorials at our annual meeting. This year's tutorials will have a slightly different format, in that two will be lab-based, hands-on experiences (thanks to Rick Lieber, our meeting chair). These will be concurrent sessions Wednesday morning (August 8), on "Mechanical properties of frog skeletal muscle" and "Basic molecular methods to study gene expression." These labs require a fee and pre-registration (see the meeting registration form) and space is very limited, so do not wait if you want to attend. The more traditional (but no less interesting) tutorial will be in the early afternoon, on "Modeling and simulation of human and animal movement," by Scott Delp. It has a small fee for professionals, waived for students, and pre-registration is recommended. Space is limited to available seating.

(continued on page 5)



SIMI^oMotion

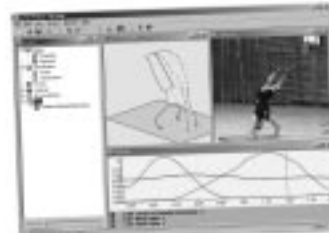
2D and 3D
Motion Analysis

- High end video based 3D motion analysis software with various possibilities to analyze, filter and calculate data - suitable for indoor and outdoor biomechanical and sport scientific research.
- Many tools are available, e.g. for gait analysis, for analog data like force plates (AMTI, Bertec, Kistler) and EMG, for individual printouts, for panning, tilting and zooming, for measuring anthropometrical data and others.
- SIMI^oMotionStation DV4 captures up to four digital cameras and supports all high speed modes of JVC 9X00 cameras (120/240Hz), synchronized with forceplates and EMG.

www.simi.com

SIMI Reality Motion Systems GmbH • Postfach 1518 • D-85705 Unterschleissheim • Germany
Phone +49-89-321459-0 • Fax +49-89-321459-16 • Internet www.simi.com • E-mail simi@simi.com

REALITY MOTION SYSTEMS



Visit us at ISBS Symposium to see the new SIMI^oMotion 6 with lots of new features and highlights! (June 20-26 in San Francisco)

New!
SIMI^oMotion 6



Visit us at ISBS Symposium
June 20-26 in San Francisco

ASB Executive Board 2000 - 2001

President

James Ashton-Miller

University of Michigan
Department of Mechanical Engineering
G. G. Brown 3208
Ann Arbor, MI 48109-2125
Phone: (734) 763-2320 Fax: (734) 763-9332
Email: jaam@umich.edu

Past-President

M. Melissa Gross

University of Michigan
Division of Kinesiology
401 Washtenaw Avenue
Ann Arbor, MI 48109-2214
Phone: (734) 764-9663 Fax: (734) 936-1925
Email: mgross@umich.edu

President-Elect

Andrew Biewener

Harvard University
Department of Organismic and Evolutionary Biology
Concord Field Station, MCZ / Old Causeway Road
Bedford, MA 01730
Phone: (781) 275-1725, x13 Fax: (781) 275-9613
Email: abiewener@oeb.harvard.edu

Secretary/Treasurer

Robert Shapiro

University of Kentucky
College of Education
107 Taylor Education Building
Lexington, KY 40506-0001
Phone: (859) 257-9795 Fax: (859) 323-1365
Email: rshap01@pop.uky.edu

Program Chairperson

Walter Herzog

University of Calgary
Faculty of Kinesiology
2500 University Drive, NW
Calgary, AB T2N 1N4 CANADA
Phone: (403) 220-3438 Fax: (403) 284-3553
Email: walter@kin.ucalgary.ca

Program Chairperson-Elect

Jill McNitt-Gray

University of Southern California
Department of Kinesiology
3560 Watt Way, PED 107
Los Angeles, CA 90089-0652
Phone: (213) 740-7902 Fax: (213) 740-7909
Email: mcnitt@usc.edu

Membership Committee Chairperson

Scott L. Delp

Stanford University
Biomechanical Engineering Division
Mechanical Engineering Department
Stanford, CA 94305-3030
Phone: (650) 723-1230 Fax: (650) 725-1587
Email: delp@leland.stanford.edu

Meeting Chairperson

Richard L. Lieber

University of California and V.A. Medical Center
Departments of Orthopedics and Bioengineering
9500 Gilman Drive
La Jolla, CA 92093-9151
Phone: (858) 552-8585 Fax: (858) 552-4381
Email: rlieber@ucsd.edu

Education Committee Chairperson

Julianne Abendroth-Smith

Willamette University
Department of Exercise Science
Lestle J. Sparks Center
Salem, OR 97301
Phone: (503) 370-6423 Fax: (503) 370-6379
Email: jabendro@willamette.edu

Communications Committee Chairperson

Gary Heise

University of Northern Colorado
School of Kinesiology and Physical Education
2790 Gunter Hall
Greeley, CO 80639
Phone: (970) 351-1738 Fax: (970) 351-1762
Email: gheise@hhs.unco.edu

Newsletter Editor

Donald D. Anderson

Minneapolis Sports Medicine Center
Biomechanics Laboratory
701 25th Avenue South – Suite LL2
Minneapolis, MN 55454
Phone: (612) 273-9200 Fax: (612) 273-4560
Email: ander284@umn.edu

Student Representative

Jeremy Houser

University of Houston
Department of Health and Human Performance
3855 Holman St. / 104 Garrison Gymnasium
Houston, TX 77204-6321
Phone: (713) 743-9915 Fax: (713) 743-9860
Email: jjhouser@bayou.uh.edu

STUDENTS! Plan on coming to San Diego early and attending these tutorials. Between the morning and afternoon tutorials Jeremy Houser, your student representative, and I will be hosting an informal lunch for students, as an opportunity to meet one other and get an idea of the going-ons for the meeting. Our goal is to allow you all to meet each other before the meeting formally gets going, so as to have a chance to interact with one another throughout the meeting. I also grew up in San Diego so I know all the good beaches to go to, and I won't be sharing that information unless you come early! Thursday will be the formal student luncheon, and we are planning on some special guests, so also mark that on your calendar.

A second goal for the Education Committee this year is the establishment of a link on the ASB web site for past tutorials that have been presented at the annual meetings, along with other instructional resources. Anyone in need of a quick refresher for simulation, computer modeling, filtering, or statistical design would find these past tutorials an immense help, as well as the other topics that have been previously presented. In addition, we are always looking for new ways of presenting material to our students, whether we are new to teaching or we have been at it for a long time. I want to establish links to other biomechanical teaching resources, as well as design a page of some of our members' favorite ideas for innovative teaching. I will be looking for contributions this summer, so plan now to participate.

In new business, the ASB Executive Board has agreed to expand on support for regional meetings. Most of you have seen announcements for the midwest regional meeting that Steve McCaw and Phil Schot, among others, have hosted in the past. These meetings are student oriented, usually with one or two guest speakers brought in, and students are encouraged to present their research in a less intimidating environment than the annual meeting. Guidelines for receiving funding are being established by the Education Committee. Funding will likely be made available to regions on a revolving basis, with two or three meetings receiving some help for hosting and bringing in guest speakers. This will be set at approximately \$1500.00 for each meeting. Plans are still in the works but watch for some guidelines to be announced soon. If you are interested in hosting a regional meeting and in receiving support from ASB, please contact me.

A final note- as professionals, we have a tendency to shift our places of employment one or two (or three...) times in the course of our careers. If you move between universities, be sure to update the graduate program link on the ASB website. The link has been a valuable resource for potential students looking for graduate programs, and it is up to the members of ASB to keep the site current. It also serves as a great recruiting tool, so it is to your benefit to help update the program as needed.

Remember, learning never stops. To quote a great man; "I have no particular talents; I am merely inquisitive" (Albert Einstein). Get involved in ASB- attend the meeting, come early for the tutorials. Meet somebody new. If you are interested in serving on a committee for ASB, contact me. See you all in San Diego.

Students' Corner

Jeremy Houser

Hello, fellow student members. I trust that you have had a successful spring semester and have been just as busy as I have been this last semester with your research and course work. I hope that you had a chance to submit an abstract to this year's ASB conference in San Diego. It is always interesting to see what everyone has been up to since last year's conference. This conference will prove to be one of the best that we have ever had with its great location and extensive agenda.

I hope to see you there, because the program includes an outstanding selection of keynote speakers, podium presentations, and poster sessions. Also, the rates for the residence halls and for meeting registration are extremely reasonable. On Wednesday the 8th, there are laboratory experiences (\$25) and a tutorial session (free for students) being offered. There will also be an informal student luncheon on Wednesday from 12 (noon) to 1pm. This informal luncheon will serve as an avenue for students to meet new and old friends. Thursday evening will be the formal dinner, and if it is anything like last year's dinner, it will be quite an event. Check out the ASB website for more details.

The new student representative will be elected at the formal student luncheon on Friday the 10th (FREE catered food). Only those students in attendance will vote. If you are interested in becoming the new student representative, then contact me sometime during the conference prior to the formal student luncheon. The student representative position is a great service opportunity, which provides many professional contacts and many valuable experiences. I urge you to consider being the new student representative.

In this position, my primary duty is to function as an intermediary between the ASB Executive Board and the student members. Other duties include organizing student activities for the annual meetings, attending the Executive Board meetings, maintaining the student corner web pages, communicating with students via email, and more. I am receptive to any ideas or concerns that you may have regarding student issues. I can be contacted via email at jeremy.houser1@jsc.nasa.gov.

I look forward to meeting you in San Diego this summer.

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 December 2001. **Deadline for submission of materials is 19 October 2001!**

Program Committee Report

Walter Herzog

The program committee received an unexpectedly great number of abstracts for the upcoming ASB conference in San Diego. A total of 201 abstracts were submitted/accepted for the annual conference. Together with the special lectures (keynotes, Borelli lecture, etc) 206 presentations will be made at the conference. However, not only was there quantity, there was a great diversity and quality in the abstracts, that in my opinion, compared more than favorably to recent conferences I was involved as the scientific program chair. Therefore, the San Diego meeting shapes up to be one of the premier places for the exchange of scientific ideas and knowledge this year.

The great number of abstract submissions also posed its problems. The ASB has always had two parallel sessions only, allowing for approximately 80 oral presentations. Given the number of abstracts, that meant, if we went with the traditional format, the majority of the presentations would be placed in the poster session. After a debate among the executive board members, we decided to go along with the traditional format of two parallel sessions. Therefore, the poster session will contain approximately 120 contributions, which is about 60% of all submissions. This program format has the advantage that attendees of the conference will likely be able to see most of the oral presentations they are interested in, but might have the (perceived) disadvantage that too many contributions appear as posters. I am aware of the perception of "only" a poster, therefore, I, together with the conference chair, Rick Lieber, will work very hard to give a maximum exposure to the poster session, and place it such that it will be an enjoyable session, that allows for great visibility and an optimal exchange of scientific ideas.

The program contains three distinct symposia that were organized by Danny Pincivero, Joanne Archambault, and Motoshi Kaya for the areas of Isokinetic Testing, Tendon Biomechanics, and In Vivo Muscle Mechanics, respectively. These Symposia sessions are supplemented by sessions on Motor Control, Spine Biomechanics, Orthopedic Biomechanics, Finite Element Analyses, Muscle Mechanics, Rehabilitation Research, Musculoskeletal Biomechanics, and Locomotion. Since there were so many abstracts to choose from, it was easy to make up sessions with a cohesive content, therefore I believe that the oral sessions should be well rounded and allow for an in-depth exploration of a given topic.

Once the initial draft program has been approved by the ASB Executive Committee, I should be able to inform all participants within days of the program, and thus, the fate of their own abstract. By the time you read this, you should likely have heard from me, or should receive notice about your abstract within a couple of days.

At this point, I should like to thank all of you who submitted abstracts, and by doing so, contributed (and will contribute) to

the success of the upcoming conference. I also would like to thank all the people who acted as referees for the abstracts. Each abstract was refereed by three people and received a score. This whole review process was completed within 17 days of me receiving the abstracts. Of course, that is only possible if most referees do their assigned work properly and quickly, which was the case. From the referees' scores, the top 20% of all the abstracts were forwarded to the awards committee who will now select the finalists (two in each category) for the Journal of Biomechanics Award, the Clinical Biomechanics Award, and the Microstrain Award. A special session was reserved for these six finalists for presentation of their research.

Having had the privilege to see all the submitted abstracts and having studied them in detail, I am excited about the scientific program of ASB 2001. The oral presentations, the posters, the special symposia, and above all, the keynote lectures by Jan Fridén, Geert Schmid-Schönbein, and James Spudich promise to be a delight. With Rick Lieber as the host, I am sure the facilities and social program will also be outstanding. Therefore, I am excited about attending this year's ASB conference, and I sincerely hope to see you all there including your students and colleagues. San Diego will be the (biomechanics) hot-spot this August.

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 Gary Heise at University of Northern Colorado via email: gheise@hhs.unco.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 grad program details.

The graduate program database can be accessed through the Society's internet homepage at:

www.asb-biomech.org



25th Annual Meeting of the
American Society of Biomechanics

University of California – San Diego
 San Diego, California

August 8 - 11, 2001



Preliminary Schedule (as of 1 May 2001)

WEDNESDAY AUGUST 08, 2001

0830 to 1130 LAB TUTORIALS
 – *Mechanical properties of frog skeletal muscle*
 – *Basic molecular methods to study gene expression*
 1200 to 1400 DIDACTIC TUTORIAL
 – *Musculoskeletal modeling and simulation of human movement*, by Scott Delp
 1600 to 1800 Welcome Reception

THURSDAY AUGUST 09, 2001

0800 to 0855 **KEYNOTE:**
 ➤ Jan Fridén, M.D., Ph.D. – *Mechanical considerations in the design of surgical reconstructions*

Parallel Sessions	I	II
0900 to 1030	Symposium (In vivo Muscle Function in Humans)	Spine Biomechanics
1100 to 1230	Symposium (In vivo Muscle Function in Animals)	Finite Element Simulations
1400 to 1530	Musculoskeletal Biomechanics	Locomotion (Running)
1600 to 1700	Young Scientist Awards Session (awardees to be announced)	
1800 to -----	Banquet	

FRIDAY AUGUST 10, 2001

0800 to 0855 **KEYNOTE:**
 ➤ Geert Schmid-Schönbein, Ph.D. – *Fluid shear stress as a control mechanism in tissue injury*

Parallel Sessions	I	II
0900 to 1030	Symposium (Isokinetic Testing)	Motor Control
1100 to 1230	Orthopaedic Biomechanics	Muscle
1400 to 1530	Award Session ➤ ASB – Microstrain Award ➤ Clinical Biomechanics Award ➤ Journal of Biomechanics Award	
1530 to 1830	Poster Session (Beer, Wine and Cheese)	
1830 to -----	ASB Annual General Meeting	

SATURDAY AUGUST 11, 2001

0800 to 0855 **KEYNOTE:**
 ➤ James A. Spudich, Ph.D. – *Biomechanical Design of Motor Molecules*

Parallel Sessions	I	II
0900 to 1030	Symposium (Tendon)	Rehabilitation
1100 to 1200	Borelli Award (Awardee to be announced)	
1200 to 1230	Closing and Awards	



...The Total Solution in Motion Capture

Products for

- Research
- PT Clinics
- Education
- Lift Training
- Golf

The MotionMonitor by IST - [Keith.act]

Setup Capture Analyze Interact PhysTherapy Administration Help

Stop

Version 4.0

Software Modules

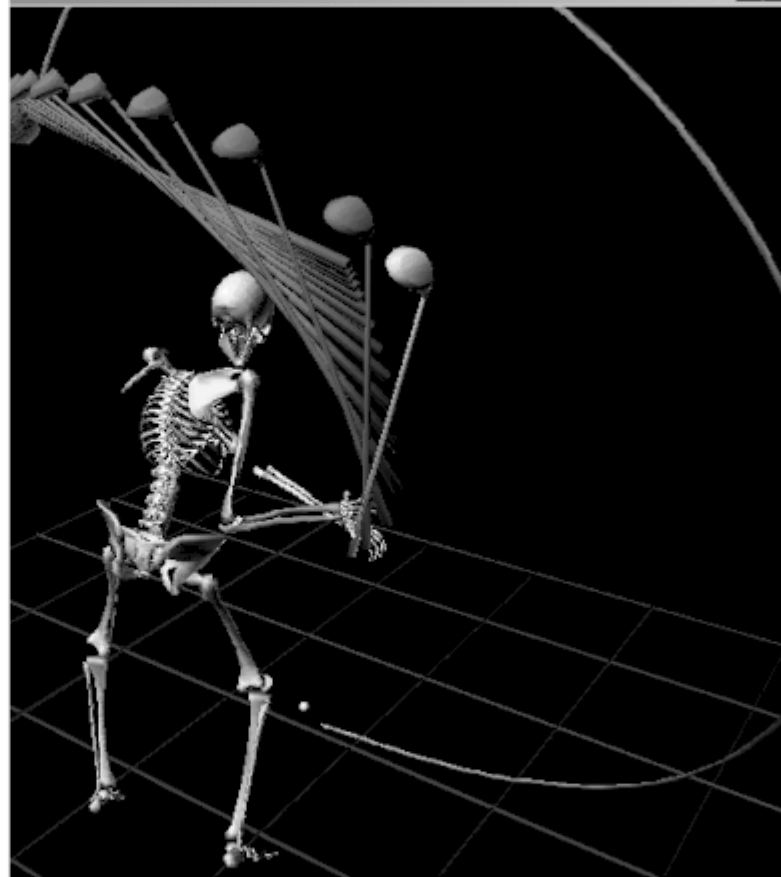
- Ascension 6DOF Option
- LabView Enabled
- A/D Data Acquisition Option
- Ground Force Option
- Hand Force Option
- EMG Option
- Integrated Video
- Biomechanics Option
- MatLab Data Definition Option
- Biofeedback Module
- MeshFile Creator
- Xray Registration
- Mapping Module

More Purchase Options

- Buy our Turn-key systems with on-site installation & training, or
- Components with free software included, or
- Stand alone software to run on your hardware.

Synchronized Data Collection from

- Ascension "Flock of Birds", miniBirds & MotionStar
- Bertec, AMTI, Kistler forceplates
- EMG by Noraxon & Run Technologies
- Bertec & ATI mini transducers
- Video



Tip / World Ref. Frame / Linear Velocity / Magnitude

Frame: 168
Value: 17.513438

Innovative Sports Training, Inc.
3712 N. Broadway #119 . Chicago . IL . 60613

Tel 773-528-1935 Fax 773-528-2149
www.innsport.com support@innsport.com

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 Scott Delp or James Ashton-Miller (page 4) for details.

The ASB Executive Board is pleased to recognize:

SUSTAINING MEMBERS

Peak Performance Technologies, Inc.

CONTRIBUTING MEMBERS

Motion Analysis Corporation

CORPORATE MEMBERS

Aircast

DePuy

Orthofix, S.R.L.

Tekscan

All members of the Society are invited to suggest names of potential commercial members. Please send your suggestions to Scott Delp, 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.

Communications Committee

Gary Heise

Submissions of abstracts for the upcoming San Diego meeting went surprisingly smooth. There were few submissions that needed to be re-formatted and re-submitted. If you have any comments or suggestions on the abstract submission process, please let an Executive Board member know during the annual meeting or feel free to e-mail me (gheise@hhs.unco.edu). The submission process for next year's meeting may differ because we are combining efforts with the World Congress, which is to be held in Calgary.

By the time you read this, we hope to have the web site updated with the abstracts which were accepted for the San Diego meeting. This area of the web site continues to be the most popular with visitors to <http://asb-biomech.org>. For now, the web-based archives of annual meeting abstracts date back to the 1996 meeting held in Atlanta, Georgia.

As our Spring semester comes to a close here at Northern Colorado, I intend to tackle some updates to our graduate program listing. This consistently draws the second highest number of visitors to our web site. If you have submitted a graduate program listing in the past few years, please check it for accuracy. Links for web sites and e-mail addresses may have changed since your last submission. Finally, thanks for your patience as you wait for updates to get on to the web site. I'll work on improving my turnaround time in the future.

I look forward to seeing you all in San Diego.

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 Julianne Abendroth-Smith, 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!**



Don't Forget to Vote!

Guest Columnist

Daniel J. Zeman

Biomechanical efficiency: a forgotten variable in testing and prescribing cardiovascular exercise.

As a young Exercise Physiologist, I was informed as to all of the rules, regulations and recommendations regarding the testing and prescribing of cardiovascular exercise. Certainly nothing could be simpler than bringing in a subject for a standardized treadmill test to measure – to the exact calorie – an individual's level of endurance. Data from these tests led to an individualized exercise prescription of appropriate intensity, frequency and duration for a subject. Because the tests were standardized, we could evaluate this data not only against a subject's previous tests but also against subjects from other labs across the country.

Looking back some twenty years later, I realize that the concept of a simple "one test fits all" model was sound, but the reality of measuring and prescribing cardiovascular (C-V) endurance involves many confounding factors. These factors include cardiac output, muscle fiber type, frame size, psychological status, age of initial onset of training, technological advances in sport specific equipment. It is useful for me to divide subjects into three groups prior to testing: (1) the general public; (2) those who exercise regularly using an ever-changing array of aerobics equipment; and (3) those athletes whose level of C-V fitness has won them recognition. The following scenarios highlight how defining these groups has helped me to manage the above factors while testing and prescribing C-V exercise.

Generic Public:

C-V Testing:

PRO's – Group tends to have a history of being sedentary with no real genetic C-V gifts. Fitness is relatively easy to determine using standardized protocols and equipment.

CON's – Group can be tested on a treadmill using a walking protocol, until an overall fatigue results. A bicycle ergometer may be used if bike geometry can be matched to limb length, ensuring that the C-V system is fatigued before the skeletal muscles. I would argue against bench stepping. Because it uses a fixed step height, it can be more a test of biomechanical efficiencies and/or quad strength than of C-V endurance.

C-V Prescription:

PRO's – Group is able to show drastic improvement in their C-V fitness because initially they were so relatively unfit.

CON's – Group's lack of C-V fitness poses problems. Foremost, they are not capable of performing long durations of exercise. Also, performing any type of exercise that is biomechanically inefficient only compounds this problem.

Big Picture:

Good News: a short, de-conditioned, obese male is tested on a treadmill using a walking protocol. Given a walking program of appropriate speed, distance and frequency, he returns for re-test having improved his C-V fitness.

Bad News: a short, de-conditioned, obese male is tested using a step test. Given a sub-optimal walking program of an inadequate speed, distance and frequency, he returns for his re-test with little to no improvement in C-V fitness.

Aerobics Equipment Users:

C-V Testing:

PRO's – Group tends to have a history of being active on a specific type and/or piece of C-V equipment. To date, these include Nordic Track, Stairmaster, Versa Climber, Air Dyne or a variety of group aerobic classes and now Tae-bo.

CON's – Group should be tested as closely as possible to the particular means by which they train. Since most of the equipment tends to be very specific with respect to muscle involvement, a standardized bike or treadmill heart rate prediction test may be of little value.

C-V Prescription:

PRO's – Group has already shown that they are habitual exercisers. The new goal is to add variety to their program by introducing both steady state and interval training.

CON's – Group's training effect may be so specific to their unique type of exercise that using data derived from initial test may be of little significance. Also because today's exercise equipment is so poorly made with respect to the reproducibility of the workloads, an individual may get a false indication of improved C-V fitness.

Big Picture:

Good News: a 35-year-old female, habitual 5-10k jogger is tested on a treadmill using a protocol that reflects the speed and elevation found in the surroundings. Given a running program that includes steady state training and interval training, she returns for her re-test and not only improves her treadmill score, but informs the physiologist that she has just run a personal best.

Bad News: a 35-year-old female, habitual swimmer is tested on a stationary bicycle using a standard exercise protocol. Given a swimming program that includes steady state training and interval training, she returns for her re-test and shows no significant improvement in her bike score but informs the physiologist that she just swam a personal best.

Nationally Recognized Athlete:

C-V Testing:

PRO's – Group tends to be highly motivated and are seeking any advice that allows them to train more intelligently.

CON's – Group should only be tested using a Metabolic Oxygen Analyzer machine while performing as specifically as possible their particular sport.

C-V Prescription:

PRO's – Group is highly motivated and will perform intensities that are really amazing if they believe the physiologist to be credible.

CON's – Group tends to be very ritualistic and may have some preconceived myths about training.

Big Picture:

Good News: a 28-year-old male, Tour de France winner is

tested on his bike using a protocol that allows him to learn true training thresholds. He is prescribed a training program that includes steady state and interval training with daily input from the athlete. He returns for his re-test and not only improves his bike score but informs the physiologist that he has won another Tour de France and a World Championship. **Bad News:** a 35-year-old female, wheel chair racer is tested on an arm crank ergometer using a standard exercise protocol with the athlete in her non-racing chair and the device on a elevated desk. She is given a heart rate based exercise program that involves only steady state exercise. She returns for her re-test and shows no improvement in her C-V fitness score nor in her race times.

It is my hope that the above examples prompt you to think about what a Biomechanist can do to ensure C-V improvements. Maybe twenty years from now the idea of testing and prescribing cardiovascular exercise will be a combination of good physiology, sound biomechanics and legitimate science.

Daniel J. Zeman M.S. is an Exercise Physiologist in Minneapolis. Dan has tested and monitored the health, fitness and athletic performance of a variety of different world class, professional and recreational athletes as well as the cardiac and diabetic patient.

Membership Committee

Scott L. Delp

The Membership Committee reviewed a total of 98 applications for membership in the year 2000. This is up from 91 applications last year and 86 the year before. We accepted 90 of the 98 applications. We did not reject any applications for student membership, but rejected 8 of 49 applications for regular membership. Applications for regular membership are typically rejected if the applicant has not published a refereed journal article in the field of biomechanics within the last three years.



The distribution of applications by membership category and discipline was similar to the previous two years. A majority of our applications come from Engineering/Applied Physics (53%). Exercise/Sports Sciences (21%), Health Sciences (12%), Ergonomics/Human Factors (8%), and Biological Sciences (6%) comprised the rest of the disciplines.

Key Ergonomics Journals



ERGONOMICS

General Editor: **Dr R B Stammers**,
Leicester University, UK

Ergonomics is an international multidisciplinary refereed journal covering all aspects of the interactions of human beings and their work and leisure. Since 1957, the journal has been the leader in its field. It reports research results on the

physiological, physiological, anatomical and engineering design aspects of human beings at work, being particularly concerned with optimizing performance. Research data from developed and developing countries is reported.

As well as the peer reviewed scientific papers, the journal publishes a regular news section, *Ergonomics International*, in conjunction with the *International Ergonomics Association*. The journal also features a lively section of media reviews and 'Notes & Commentaries'.

Ergonomics readership spans ergonomists and human factors researchers, physiologists, psychologists, product and job designers and health and safety researchers.

Ergonomics has been available online since 1997.

Vol. 44 (2001) • 15 issues a year • ISSN Print 0014-0139
ISSN Online 1366-5847 • Institutional US\$2056/£1246 (free online access)

FREE Online Access with every institutional subscription! Visit www.tandf.co.uk/journals



ERGONOMICS ABSTRACTS

Editor: **Christine Stapleton**, University
of Birmingham, UK

Ergonomics Abstracts is a focused, comprehensive, and international abstracting service, spanning the world of ergonomics and human factors.

In each printed edition of *Ergonomics Abstracts*, you will find a selection of over 1,400 abstracts from over 350 journals, in addition to books, reports and conference proceedings. Full bibliographic details and a summary of the article are presented in a clear and concise format.

In addition to the unique classification scheme, each issue also contains an application index and a comprehensive book reviews section.

Ergonomics Abstracts online edition is available FREE to subscribers. At your desk, at your fingertips, you have the latest abstracts plus an extensive database containing all abstracts published since 1985 in this rapidly expanding field. The wealth of information available amounts to a global directory of over 68,000 records! For a FREE thirty day trial, visit: www.tandf.co.uk/ergo-abs

Vol. 33 (2001) • Quarterly • ISSN Print 0046-2446
ISSN Online 1464-5084 • Institutional US\$1806/£1095 (free online access)



THEORETICAL ISSUES IN ERGONOMICS SCIENCE (TIES)

Editor-in-Chief: **Dr Waldemar Karwowski**,
Centre for Industrial Ergonomics, University
of Louisville, Louisville, Kentucky 40292, USA

TIES stimulates and develops a theoretical basis for the science of ergonomics, and thus formulates a methodology for this novel science. This new journal is aggressively pro-active in its mission to develop a unique science, and seeks to define ergonomics as distinct and inherently valuable for the global "knowledge community".

TIES emphasizes NEW KNOWLEDGE: we publish original, high-quality, peer-reviewed papers. Topics include both qualitative and quantitative methodological frameworks and theories of ergonomics (for example, the theory of user-centred design). Reviews and commentaries are commissioned. The journal presents papers which discuss principles of the investigative process in ergonomics research, social and historical issues, and "science of science" perspectives on ergonomics.

Unlike any other ergonomics journal published today, *TIES* focuses on a broad array of theoretical issues, methodology, and philosophical dialogues within the science of ergonomics.

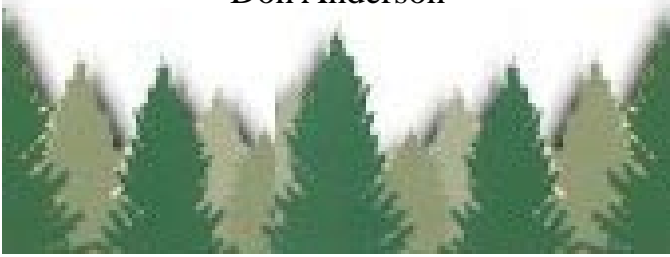
Vol. 2 (2001) • Published quarterly, in simultaneous print and electronic editions
ISSN Print 1463-922X • ISSN Online 1464-536X • Institutional US\$29/£181 (free online access) • Special personal subscription rate for IEA members US\$99/£60 (print version only)

Subscribe or request a FREE Sample Copy Today!

Contact Customer Services at: Tel: +44 (0)1256 813002 • Fax: +44 (0)1256 330245 • Email: enquiry@tandf.co.uk • Web: <http://www.ergonomicsarena.com>

Into the Woods

Don Anderson



The next step... to San Diego!

By now you've no doubt received notification that, based on the stellar PDF version of the abstract you submitted, you will be presenting your research findings at the upcoming ASB Meeting in San Diego. (NOTE: If not, humor me and read on, nonetheless. I think it will still be worth your time.) Congratulations! I hope my last editorial with suggestions to assist you in PDF file creation was helpful. Now you need to put together a PowerPoint presentation of your work, the logical next step in this process.

I can't tell you how many times I have seen glitches with such presentations over the past two years. You would think that it would get easier, not harder, over time. Unfortunately, people continue to embed the most complicated material into their presentations, including video and large image files. There must be some way to put together a compelling presentation without risking the embarrassment of a botched PowerPoint delivery.

Perhaps the single most important point for people to grasp pertaining to laptop projection is that their "slides" are projected at a very modest 70 to 80 dots per inch, regardless of how exquisitely high the resolution of your embedded images. Save yourself the grief and try using images that are at the most 150 dpi. You'll be happier in the long run. The differences between a 400kbyte and a 8Mbyte image are pretty astounding when it comes to the likelihood of freezing or at the very least slowing down a computer. Not to mention that the size of your presentation file will be dramatically smaller as well. A helpful corollary on this image resolution front is to keep in mind that not all images (some would argue that very few) need 32 bit color resolution to look good. In fact, many line drawings do quite well with 1-bit color (black & white), and what a savings in file size and trouble!

Resist the use of fancy between-slide animation and transition effects offered by PowerPoint to "liven up" the talk. They often serve more as an annoyance than anything else.

I hate it when people's computers go to sleep during their presentation. You know, that blank screen or flying windows screen (or something even more embarrassing!) that comes up after a period of inactivity in order to save energy. It is not very hard to tweak your computer's settings to convince it to never go to sleep during your presentation.

If you are going to use a video clip embedded in your talk, make sure that you know how to run it. Have a standalone copy of the

actual video file that you have embedded in your PowerPoint presentation. And allow extra pre-presentation time to troubleshoot your presentation. Of course, video clips should be avoided unless they are highly relevant to your presentation.

I alluded to a little trick in my last column. Sure, people will tell you that you have to bring a PowerPoint version of your talk. Well, that's fine until the fonts you've chosen look absolutely horrendous on the computer you end up using for projection. What can be done about this? Think PDF... Believe it. I have used a PDF version of my PowerPoint presentation before – just make sure that you choose to embed your fonts into the PDF file at the time that you generate it. A PDF file generated on a Power Macintosh computer will look absolutely groovy on any Windows-based PC – or vice versa. Or, for that matter, on a Unix workstation. And all you need as an application on the computer you are to present on is the free Acrobat Reader. It is getting harder and harder not to find this app on nearly any computer. If you're really the skittish type (like I am), you can carry an installer for Acrobat Reader on your Zip disk or CD-ROM. Within the space of a single Zip disk, you should be able to fit your presentation (in PDF format) and an installer or two for the Reader software. Of course, I wouldn't want to rely on this exclusively for my presentation, but it is a reasonable thing to carry around, just in case.

When it comes time for to present, just open your file in Reader, and select Full Screen from the View menu. By default, a mouse click or arrow key will take you from slide to slide. Which raises another point I wanted to make earlier. I think one should avoid the mouse or a trackpad (that fancy touchpad used in place of a mouse on most laptops) for advancing slides. It is just a bit too quirky for me. Instead, use the arrow keys available on most keyboards.

As for pointers on how to navigate the non-technical aspects of presenting a coherent picture of your research efforts, I would defer to advice from Kit Vaughan, first offered in a column he published in the 1993 ASB Newsletter. I have adapted the text that follows directly from that column (with minor edits). Take my and Dr. Vaughan's suggestions to heart, and you should have a trouble-free presentation. One final note. As presentation guidelines have not yet been issued for the upcoming conference, stay tuned to the ASB website for additional specific information regarding procedures for presentation at the meeting.

Back in December 1990, Keith Williams wrote a piece in the ASB Newsletter entitled "Key factors to insuring you give a confusing presentation". Those of you who read his piece probably laughed out loud at some of his hilarious advice. Here's a sample: "Cram as many of the 16,000,000 colors available on computers onto a slide. The world record is only 37. Certainly we can do better than that!" Behind the humor, however, was a very serious message.



People ignore all the “rules” of good slide making when they prepare for a conference. We will gathering in Iowa City this fall [Current editor’s note: that was 1993, we’re actually meeting in San Diego this summer] for our annual meeting and I challenge all of you who present from the podium there to adhere to the following guidelines.

My graduate students know that I’m a tough person to please when it’s time to critique their slide-making efforts. In putting together a presentation, I encourage them to prepare this in a manner similar to an artist creating a comic strip. Each “frame” of the strip represents one slide and you can fit two onto a single sheet of paper (which also helps for those of you who are brave enough to attempt a dual-slide presentation). You then write or sketch the details in the frame and the analogy to a comic strip is continued: try to remember you are telling a story. Once the final frame is composed, you know the total number of slides. A good rule of thumb is one slide for each minute of your presentation. I always find this the toughest advice to accept. The organizers of the ISB meeting in Paris this July [remember, this was originally published in 1993...] have taken a novel approach. The authors whose papers were accepted have been told that they may only use 5 to 6 slides for their presentation! While some may consider this approach extreme, it will certainly have the positive effect of keeping the program on time and making authors choose their slides very carefully.

Each slide that you prepare should have a clear purpose. As soon as it’s projected the main point should catch the attention of the audience and be readily understood soon thereafter. If the audience takes too long to figure out what the slide’s message is, they can obviously not pay appropriate attention to what the speaker is saying. Try to organize your slide around a single central theme so that it tells a unified story. Remember that information not directly supporting the main point of the slide, and not important enough to be specifically mentioned in the verbal text, should be excluded from the slide. Tabular data should rarely be used in a slide presentation. You should particularly avoid the comprehensive data table designed for another purpose (e.g. a journal article). Remember that the audience is most interested in your evidence and conclusions, not how much work you’ve done!

Above all else, your slides should be legible. In a recent study, measurements of apparent projected image sizes were made from the rear seats of five national scientific meetings. From there, the eye-to-screen distance averaged 10 times the projected image width. This applied to both large and small meeting rooms. This useful ratio enables you to evaluate how legibly your slide will project by viewing the original figure, or the slide itself, or the projected image, from a distance 10 times its width. For example, a 35 mm slide should be viewed from 350 mm (about 14 inches!). Hold your slide up to the light and you should be able to read every detail (assuming 20/20 vision). An overhead transparency, with a width of about 25 cm, should be legible from a surprising 2.5 m. This means that you should never make a transparency from 12 point text, the font size used by most typewriters in pre-computer days. [Current editor’s note: for a more modern exercise, play your PowerPoint presentation on a 17 inch monitor, and stand back 14 feet to view for legibility.] When they correlated the above measurements with a standard eye chart, they calculated the minimum letter size from the rear seats to be 1/57 the projected

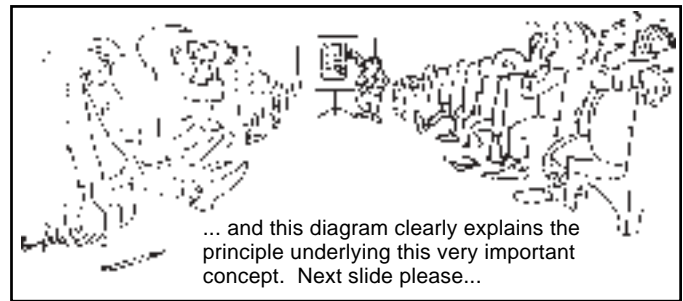


image width. This translates into a slide that has a width of 42 characters and a height of 14 single-spaced lines. When selecting a font, remember that Sans Serif is easier to read than Roman or Script, so choose your font carefully.

I will conclude by briefly highlighting some simple rules of thumb. Keep in mind that bright lettering (e.g. white or yellow) works best on a dark background (e.g. royal blue). The normal aspect ratio for a slide is 3:2. Bear this in mind when composing both text and figures. Avoid having large blank spaces above and below the material of interest. As we discovered earlier, 14 single spaces are suggested for the height of a text slide. If using double-spacing, this translates into no more than 7 lines of text. Assuming an average of 6 characters per word, and with the previous guideline of 42 characters per line, our rules suggest that you should aim for no more than 7 words per line. Most of the computer programs designed for composing slides allow you to put a heading or title. Try to limit this to 5 words. Always consider the KISS philosophy: Keep it simple, stupid! Only include something on a slide if you plan to refer to it explicitly. In a journal or book you can afford to include a lot of detail. In a slide presentation, with a prescribed time limit, you should avoid extraneous detail. Because the vast majority of projection screens are set up in “landscape” mode (width greater than height), a slide that has a vertical orientation (portrait mode) will either project too small or will be chopped off at the top and bottom.

As I said earlier, avoid the use of tables in a slide. Plan to use graphics instead. Line graphs should be kept very simple by showing just 2 or 3 lines, avoiding excessive detail (e.g. the scales on these should be limited), and maintaining an appropriate balance between the text and the graph itself. Bar charts can work well so long as you avoid overcrowding and use a maximum of 7 bars. Remember, just because your computer program can produce 3D bars, you shouldn’t feel obliged to use this feature!

The next time you attend a seminar, workshop or conference, look carefully at the presenter’s slides. Compare them with the guidelines I have suggested here. You will soon learn to recognize slides that enable the speaker to communicate his/her ideas successfully. Your next challenge will be to adopt these principles in your own slide-making efforts. Good luck!

Christopher L. Vaughan, PhD – Hyman Goldberg Professor of Biomedical Engineering – University of Cape Town from ASB Newsletter, Vol. 6, No. 1, May 1993 with permission

bBlackwell
ScienceOsney Mead,
Oxford OX2 0EL,
UKTelephone
+44 (0)1865 206206Fax
+44 (0)1865 721205[http://www.
blackwell-science.com](http://www.blackwell-science.com)

Sports Engineering

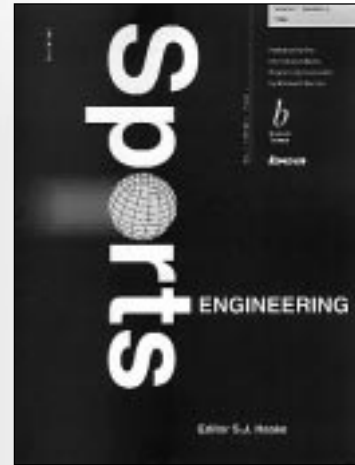
Sports Engineering is an international journal publishing original papers on the application of engineering and science to sport. The journal intends to fill the niche area which lies between classical engineering and sports science and aims to bridge the gap between the analysis of the equipment and of the athlete.

Areas of interest include:

- the mechanics and dynamics of sport
- the analysis of movement
- instrumentation
- equipment design
- surface interaction
- materials and modelling

These topics may be applied to technology in almost any sport.

Sports Engineering will be of particular interest to Engineering, Physics, Mathematics and Sports Science Departments and will act as a forum where research, industry and the sports sector can exchange knowledge and innovative ideas.



Now available online as full text HTML or page layout PDF. Register FREE to view abstracts and for your personalised alerting service at www.blackwell-science.com/spe/

The journal is covered by *Cambridge Scientific Abstracts* and *Applied Mechanics Reviews*.

Published quarterly, ISSN 1369 7072

Calendar of Events

Andrew Karduna

XIX International Symposium on Biomechanics in Sports
June 20-26, 2001, San Francisco, California
Abstract deadline – past
www.usfca.edu/ess/sym2001

2001 International Conference on Mathematics and
Engineering Techniques in Medicine and Biological Sciences
June 25 - 28, 2001, Las Vegas, Nevada
Abstract deadline – past
www.cns.bu.edu/metmbs

2001 Summer Bioengineering Conference
June 27 - July 1, 2001, Snowbird, Utah
Abstract deadline - past
www.asme.org/divisions/bed/summer01.html

VIII International Symposium on Computer Simulation in
Biomechanics
July 4-6, 2001, Milano, Italy
Abstract deadline – past
mech.polimi.it/convegni

18th Congress of the International Society of Biomechanics
July 8-13, 2001, Zurich, Switzerland
Abstract deadline - past
www.isb2001.ethz.ch

**25th Annual Meeting of the
American Society of Biomechanics**
August 8-11, 2001, San Diego, California
Abstract deadline - past
asb-biomech.org/conference/conference.html

3rd International Symposium on Progress in Motor Control
August 15 - 18, 2001, Montreal, Quebec, Canada
Abstract deadline – past
ireadapt.qc.ca/symposium

International Conference of Motor Control
September 9-14, 2001, Varna, Bulgaria
Abstract deadline – past
biblio.cnrs-mrs.fr/varnaMCC2001

Sixth IOC World Congress on Sport Sciences
September 16-21 2001, Salt Lake City, Utah
Abstract deadline - past
www.iocworldcongress.org

Biomedical Engineering Society's Conference
Oct 4-7, 2001, Durham, North Carolina
Abstract deadline – past
www.bmes2001.duke.edu

XIIIth International Biomechanics Seminar
October 5-6, 2001, Wroclaw, Poland
Abstract deadline – past
netra.awf.wroc.pl/~as/biosemin

45th Annual Meeting of the Human Factors and Ergonomics
Society
October 8-12, 2001, Minneapolis, Minnesota
Abstract deadline - past
hfes.org/meetings/am-2001.html

23rd Annual International Conference of the IEEE
Engineering in Medicine and Biology Society
October 25-28, 2001, Istanbul, Turkey
Abstract deadline – past
embc2001istanbul.bme.boun.edu.tr

5th International Symposium on Computer Methods in
Biomechanics and Biomedical Engineering
October 31 – November 3, 2001, Rome, Italy
Abstract deadline - June 30, 2001
www.uwcm.ac.uk/biorome

International Mechanical Engineering Congress and
Exposition
November 11-16 2001, New York, New York
Abstract deadline – past
www.asme.org/conf/congress01

47th Annual Meeting of the Orthopaedic Research Society
February 10-13, 2002, Dallas, Texas
Abstract deadline - July 13th
www.ors.org

7th Annual Meeting of the Gait and Clinical Movement
Analysis Society
April 17-20, 2002, Chattanooga, Tennessee
www.utc.edu/~mwhittle/GCMASmtg.htm

7th International Symposium on the 3-D Analysis of Human
Movement
2002, Erlangen, Germany

4th World Congress on Biomechanics
August 4-9 2002, Calgary, Canada
Abstract deadline - January 31, 2002
www.wcb2002.com

* * * *

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

Job Opportunities

Kathy Browder

FACULTY POSITIONS

Aerospace Engineering – Assistant/Associate Professor: Two (2) tenure-track positions. Qualifications: Research interests in flight dynamics and space systems; bio-fluid dynamics and biomechanics of tissues; microfluidics and MEMS; high performance computing in materials, mechanics, and impact dynamics; active materials; non-intrusive diagnostics for solid structures, combustion, and acoustics; process modeling of composite materials; multidisciplinary design and optimization; and nano-scale fluid/solid mechanics. Prior research/industrial experience preferred. Send resume and names of 3 references to: Professor Bhavani V. Sankar; AeMES Search Committee Chair; P.O. Box 116250; University of Florida; Gainesville, Florida 32611-6250. Website: www.aero.ufl.edu. Start date: Negotiable. Deadline: 8/31/01.

Physical Therapy – Assistant/Associate Professor: Tenure-track position. Qualifications: Physical therapist; earned doctorate at the time of appointment; experience in instrument-based research, teaching, and clinical practice in the area of biomechanics, motor learning, or musculoskeletal physical therapy; eligible for licensure in New York State; established research track; experience & interest in seeking external funding.






Responsibilities: Teach and guide student research in internationally recognized post professional education program at the doctorate level (DPT). Send letter indicating appropriateness of qualifications for the responsibilities of the position, CV, and the names and telephone numbers of 4 references to: Tsega A. Mehreteab, Chair, Search Committee; Department of Physical Therapy; New York University; 380 Second Avenue, 4th Floor; New York, NY 10010-5615. Website: www.nyu.edu/education/pt. Start date: 9/1/01. Deadline: 5/01 or until filled.

Exercise/Sport Science – Assistant Professor: Non tenure-track position with option to convert after initial appointment. Qualifications: Earned doctorate in Exercise Science or related field; university teaching experience; experience in the development and implementation of Wellness/Rehabilitation Programs; evidence of scholarly productivity. Responsibilities: Teach undergraduate courses in Human Anatomy and others to be selected from Biomechanics, Motor Learning or other areas of specialty; coordinate internal and external Wellness Programs; conduct scholarly research; engage in collaborative work with Tulane University's Medical Center; serve on university/departmental committees. Send letter of application, CV, transcripts, 3 recommendation letters, and 3 additional names and addresses of references mailed in hard copy to: Dr. Lance B. Green; Department of Exercise and Sport Sciences; 105 Reily Center; Tulane University; New Orleans, Louisiana 70118. Start date: Negotiable. Deadline: Until filled.

siliconCOACH
BIOMECHANICAL SOLUTIONS FOR THE DIGITAL AGE

- software for \$450
- create split screen presentations
- calculate distances, speeds and angles
- provide rapid feedback for coaches and athletes
- develop 2D models to digitize motion and obtain x and y coordinate data
- design and develop qualitative and quantitative motion analysis tutorials for students

visit our website to download a trial version:
www.siliconcoach.com

coaching 
education 
clinical 
biomechanics 
windows 
95 98 ME NT 2000

Exercise Physiology/Leisure Science – Assistant/Associate Professor: Tenure-track position. **Qualifications:** Doctorate in HPER or related field; college/university teaching experience; ability to teach undergraduate and graduate science-based courses; proficiency in metabolic testing. Send letter of application, resume, college/university transcripts, and list of 5 references to: Dr. Jeff Geiser; Adams State College; Alamosa, Colorado 81102. Website: www.adams.edu.

Mathematics, Science and Physical Education – Associate Dean: **Qualifications:** Minimum 5 years college teaching experience in one of the instructional areas within the division; Master's degree required, doctorate preferred; Administrative experience that includes academic planning, program development, budgeting and personnel management; outstanding interpersonal communications skills and computer competency. **Responsibilities:** Provide administrative oversight and leadership for all division activities; determine equitable work assignments and appropriate class sizes; evaluate performance of department chairs, faculty and staff; make employment and contract renewal recommendations; oversee the strategic planning and budgeting processes; ensure quality and currency of curriculum and accuracy of printed materials; implement dual credit and internet course delivery. Send resume and letter of application of 5 pages or less to: Human Resources (Job Line Number: 281-998-6399); San Jacinto College District; 4624 Fairmont Parkway, Suite 106; Pasadena, TX 77504. TEL: 1-800-825-5069. Start date: Negotiable. Deadline: 5/31/01.

Exercise Science – Assistant/Associate Professor: Tenure-track position. **Qualifications:** Ph.D. is required in exercise physiology or closely related area. ABD acceptable if all other degree requirements are scheduled to be completed within one calendar year from appointment. **Responsibilities:** Coordinate Sport Science, a concentration within the physical education major. Send resume and names, addresses, and telephone numbers of 3 references to: Dr. Carol Karnes, Division Head; Anderson College; 316 Boulevard; Anderson, South Carolina 29621. Start date: 8/15/01. Deadline: Until filled.

Physical Therapy – Division Director: Tenure-track position. **Qualifications:** (1) Earned doctorate degree and 3 years of clinical experience in Physical Therapy; (2) licensure or licensure eligible status in Physical Therapy by the State of Florida; (3) established record of successful research productivity, teaching excellence, and curriculum development; (4) ability to secure external funding; (5) effective interpersonal, communication, and management skills along with leadership potential; and (6) evidence of professional involvement. **Responsibilities:** academic administration, teaching, research, securing external funding, curriculum and faculty development, student advisement, and University and community service. Send current CV, letter of intent, and 3 letters of recommendation to: Dr. Barbara Mosley, Chair, Search Committee; Florida A&M University; School of Allied Health Sciences; 223D Ware-Rhoney Building; Tallahassee, Florida 32307. Start date: 8//2001. Deadline: Until filled.

OTHER POSITIONS

Software Engineer to work in Oxford, UK. **Qualifications:** Real-time embedded software engineering experience using C++ in a windows environment; background in control software, motions capture, simulation or high speed data capture and or familiarity with either MFC, VxWorks or RTOS. **Responsibilities:** Develop special effects, animation, and motion capture applications for a variety of commercial clients ranging from medical to Hollywood motion pictures; develop the next generation of intelligent cameras and control biometrics software. Contact information: newtech@alexandermccann.co.uk

FEA / CAE Analyst Biomedical Devices to work for JUDGE.com in Warsaw, IN. **Qualifications:** M.S. or Ph.D. degree in mechanical engineering, engineering mechanics, or related field; must be U.S. citizen/green card holder; knowledge of engineering mechanics and simulation techniques such as FEA, motion analysis, mold filling and metal casting flow and solidification; knowledge of materials science, fatigue and fracture mechanics and biomechanics is desirable; experience with one or more of the software packages ABAQUS, ANSYS, and PATRAN desired; experience in which simulation has been used to support research and development in a manufacturing environment is desired; experience with ADAMS, Unigraphics and CADfix software helpful. **Responsibilities:** Specialize in the use of simulation tools, such as Finite Element Analysis, to provide solutions to challenging problems in research and product development; assume responsibility for all phases of an analysis project, from initial requestor contact to final report. Contact information: <http://www.headhunter.net/jobseeker/index.htm?siteid=cmhome>

Human Factors Engineer (Ref Code: #897) to work for Exponent in Natick, MA. **Qualifications:** Ph.D. in experimental or cognitive psychology, biomechanics, human factors, industrial engineering or bioengineering; experience with ergonomics, sensation and perception, psychophysics, kinesiology, exercise physiology and motor control a plus. **Responsibilities:** Analyze human performance related to mechanisms and system design, including limitations of human perceptual, cognitive, and response capabilities; responsible for working on multi-disciplinary projects, and for providing project management, data processing, and other project support; conduct research to obtain and review technical data, scientific literature, and standards. Contact information: Tracy Ryan; Exponent; 149 Commonwealth Drive; Menlo Park CA 94025; TEL: (508) 652-8513; FAX: (650) 328-3049; Email: hr@exponent.com.

Biomedical Technician (Ref Code: 111/1901262) to work for Tech/Aid in Des Plaines, IL. **Qualifications:** Experience with the repair of Bio-Medical equipment; be able to read mechanical drawings. In this position, time is of the essence, must be able to fix the product and return it to the Hospital in a timely manner. **Responsibilities:** Rebuilding and repairing linear accelerators and simulators and performing the assembly of these products. Contact information: TECH/AID Oakbrook; 210 W. 22nd Street; Oak Brook IL 60523; TEL: (630) 571-2886; FAX: (630) 571-2895; Email: oakbrook@techaid.com.

(continued on next page)

Senior Researcher, Footwear (Ref Code: INBLRD13715) to work for Nike in Portland, OR. Qualifications: Doctorate or a Master's degree in Biomechanics, with at least 7 years' experience with biomechanical/footwear research; managing experience and knowledge of industrial research preferred. Responsibilities: Develop the vision, direction, and agenda for Nike's Advanced Research and Development Innovation Pool initiatives; execute the research agenda and direct and conduct footwear biomechanical research aimed at increasing understanding of athlete needs and activity demands to develop technologically innovative products that are globally relevant; develop a comprehensive approach to innovation that includes biomechanical, perceptual, and material property information to provide measurable consumer benefits; guide Research Assistants through all phases of product performance research, ranging from protocol evaluation to testing setup, and from data interpretation to results presentation; supervise research performed by external business partners and translate their results into actions/directions for Nike's product innovations. Apply online at <http://www.nikebiz.com/applynow>.

Biomechanics Research Engineer (Ref Code: 2001-037) to work for Transportation Research Center in East Liberty, OH. Qualifications: BS or MS in mechanical or biomedical engineering (or comparable discipline) with demonstrated knowledge of mathematics, engineering mechanics, mechanical engineering, structures, and machine design; excellent written and verbal communications required; experience or interest in transportation-related research environment preferred. Responsibilities: Conduct and manage projects in Vehicle Research and Test Division; conduct research and testing related to the biomechanics of vehicle occupants and pedestrians including evaluation, design, and development of crash test dummies. Send resume to: Transportation Research Center Inc.; Attention: Ms. A. Hagedorn; PO Box B-67; East Liberty, OH 43319; Email: alena.hagedorn@nhtsa.dot.gov; FAX: 937-666-3590.

Product Development Engineer to work for Snelling Search in Peoria, IL. Qualifications: 5 years product development experience and 1-2 years utilizing computerized new product development and implementation software programs; exposure to plastics, anatomy or biomechanics preferred. Responsibilities: Design, develop, and test new products. Contact information: www.headhunter.net/jobseeker/index.htm?siteid=cmhome

PeopleSoft Programmer to work for The Alpha Group in Medway, MA. Qualifications: 3+ years of PeopleSoft development experience using SQR, PeopleTools, PeopleCode and COBOL. 3+ years of experience working with PeopleSoft's data directory and data model; development experience with Crystal - nVision. A significant portion of this experience should be on V7.5 and above; Oracle SQL is required; BSCS required. Responsibilities: Responsible for providing technical and application support for the PeopleSoft applications; maintain, enhance and support PeopleSoft applications, specifically the financial, distribution, manufacturing and order management modules; work directly with users and other IT team members to understand and specify business requirements to develop

program solutions for business requirements, to develop and modify reports, and to customize screens, menus and other system features. Contact information: <http://www.headhunter.net/jobseeker/index.htm?siteid=cmhome>

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

Additional opportunities can be found on the ISB home page (<http://isb.ri.ccf.org/jobs/index.html>), on the Biomechanics World Wide home page (<http://www.per.ualberta.ca/biomechanics>) under the Career Opportunities category, and at <http://www.biosolutions.net/cgi-bin/ubbcgi/Ultimate.cgi>.



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 Peter Vint at (peter.vint@researchintegrations.com).



Don't Forget to Vote!

On the following two pages, you will find biographical sketches provided by the candidates nominated to run for the offices of President-elect, Secretary/Treasurer, and Program Chair-elect. The nominating committee chaired by Melissa Gross has provided an outstanding set of candidates. The nominees are:

President-elect - Joan Bechtold and Trey Crisco

Secretary/Treasurer - Mark Redfern and Ted Gross

Program Chair-elect - Rodger Kram and Irene McClay

Please consider them carefully as you vote using the ballot included in this mailing. It is very important that the membership of our society take an active role in determining who will fill these positions.

Please remember to **VOTE and MAIL** your ballots. We have included an addressed envelope for your convenience. Place your ballot in the envelope, apply the necessary postage and please mail your ballot. We will announce the results at the annual meeting in San Diego. If you did not receive a ballot please contact Rob Shapiro (contact information on page 4).

Election Deadline: The deadline for receipt of your ballot for this year's election is July 27, 2001.

MyoSystem 1400 EMG system is a highly versatile instrument specifically designed to simplify the interface to other measurement devices:

- Selectable bandwidth for surface and/or fine wire applications
- Built in calibration verification
- Automated electrode impedance quality test
- Passive and active electrodes

Visit our booth at the ASB Conference or www.noraxon.com for information on our full product line.

"Free samples of new Noraxon dual electrodes available."

NORAXON USA, Inc.
480.443.3413 or 800.364.8985

PRESIDENT-ELECT CANDIDATES

Joan E. Bechtold, Ph.D.

Joan E. Bechtold has been director of the Orthopaedic Biomechanics Laboratory of the Midwest Orthopaedic Research Foundation/Hennepin County Medical Center for over fifteen years, and for over ten years has had joint appointments in the Departments of Biomedical Engineering and Orthopaedic Surgery at the University of Minnesota. She received her B.S. in Mechanical Engineering from Michigan State University in 1979, with an emphasis area in Biomedical Engineering, serving two years as an undergraduate research assistant in the Department of Anatomy. Then she conducted research in gait and materials testing for two years in the Orthopaedic Biomechanics Laboratory of the Mayo Clinic. She then moved to Minneapolis to complete graduate work at the University of Minnesota. She earned the M.S. degree in Mechanical Engineering in 1983 for work developing analysis methods for 3D motion measurement. Next she moved to Bern Switzerland on an AO Fellowship, where she initiated her doctoral research studies in the geometric and anatomic design of orthopaedic implants applied to intramedullary nails. She returned to Minneapolis in 1984 and earned her Ph.D. in Mechanical Engineering in 1987. While completing her Ph.D., she began working at her current position directing the Orthopaedic Biomechanics Lab. She has overseen the growth of the team's laboratory from 2 employees and 2 rooms, to a 1500 square foot biomechanics and orthopaedic research lab with 10 full-time staff and 3-5 fellows, graduate students, post-doctoral and post-graduate engineers and physicians, and with extramural funding including NIH, OREF, the Whitaker Foundation, the Arthritis Foundation, the Orthopaedic Trauma Association, and Minnesota Medical Foundation and Supercomputing Institute.

Dr. Bechtold's area of professional focus is primarily in artificial joint replacement implants. She studies ways to improve the integrity of the bone-implant interface, to provide more secure fixation and greater longevity for implants. In particular, in a collaboration with local and international surgical and clinical colleagues, she studies revision joint replacement using experimental and numerical models, to improve the management of this complex patient population. Other focus areas include implant-related infections, fracture management, osteoporosis and hip fractures, and spine, from mechanical and implant-related viewpoints, as well as biological methods. Emphasizing her belief in the value of learning from and working with different scientific and clinical disciplines, she has national and international collaborations, and has been Visiting Professor in Japan and several European countries.

ASB has been an important part of Joan Bechtold's professional life. As an undergraduate student, she attended the ASB annual meeting held in Ann Arbor Michigan (1978). She learned about the versatility and professional vitality that happens with the multidisciplinary attendees of this ASB meeting (and also made connections for her first job). Since then, she has served in several ASB positions, being supportive of ASB efforts to encourage programs for student members, as well as to delve into means to foster and strengthen ASB's unique interdisciplinary efforts between the all members of ASB. She would intend to continue to determine from the ASB membership what they most value from ASB, and to encourage and strengthen its worth for all members, disciplines, and career stages.

J.J. Trey Crisco, Ph.D.

J.J. Trey Crisco received his Ph.D. in Applied Mechanics from Yale University in 1989 and his B.A. in Mathematics and Fine Arts from Amherst College. At Yale University, he served on the faculties of the Departments of Orthopaedics and Engineering from 1990-1995. In 1995, he joined the faculty at Rhode Island Hospital and Brown University. He is currently the Director of the Bioengineering and Sport Laboratory and an Associate Professor of Orthopaedics and an Adjunct Associate Professor of Engineering at Brown University.

Dr. Crisco's early work was in spinal biomechanics. His interest in soft tissue injury began with work on muscle contusions for which he received the ASB Postdoctoral Young Scientist Award in 1993. His more recent interests include the use of advanced imaging modalities for the study of in vivo skeletal joint mechanics. His work has been supported by the Whitaker Foundation and the NIH and has resulted in over sixty peer-reviewed manuscripts and ninety abstracts.

Since 1987, Dr. Crisco has been an active member of the American Society of Biomechanics, attending and presenting over twenty abstracts at the annual meetings. In 1996, he was a member of the ASB Nominations Committee. From 1995 through 1998, he chaired the Membership Committee and helped to redefine the criteria for membership. In 2000, he served as the Program Chair for the 24th Annual Meeting in Chicago, IL. This meeting's theme; "The Biomechanics of Bacteria, Brontosaurus, and Beyond" reflects the diversity of the Society's membership and interests. If elected, Dr. Crisco will work to enhance the Society's strength reflected in this unique ability to bring together a wide range of scientists.



(Joan Bechtold bio continued)

Dr. Bechtold has been a member of ASB since 1980, and has served ASB in several roles. She has been a member of ASB's Executive Board for 5 years, and has served in two elective positions for ASB (ASB Secretary/Treasurer for three years, and ASB Program Chair for the combined ASB/CSB NACOB II meeting). She is currently ASB's representative to the *Journal of Biomechanics*, where she also serves on the Editorial Advisory Board and holds the position of Survey Editor. Additionally, she has served as ASB co-Editor for the Proceedings of NACOB II, reviewer for the ASB Graduate Student Grand-in-Aid program and its Borelli award. She serves as reviewer for NIH, as well as for various Biomechanics and Orthopaedic journals, and is a technical advisor for orthopaedic and materials testing groups. In addition to Dr. Bechtold's service with ASB, she has been involved with other professional organizations, including the Orthopaedic Research Society (Education and Special Projects Committee – 4 years, instituting ORS Travelling Fellowship Program, and Chair of committee and ORS Board of Directors, one year, ORS *ad hoc* reviewer, one year), American Academy of Orthopaedic Surgeons (Biomedical Engineering Committee, 6 years), and the Orthopaedic Research and Education Foundation (Grant review committee, 5 years).

SECRETARY / TREASURER CANDIDATES

Ted S. Gross, Ph.D.

Ted Gross is an Associate Professor and Director of the Orthopaedic Science Laboratories in the Department of Orthopaedics and Sports Medicine at the University of Washington. He also holds an adjunct appointment in the Department of Bioengineering. Following undergraduate studies at Trinity University in San Antonio, and a M.S. in Sport Biomechanics at The Pennsylvania State University, Ted received his Ph.D. from the State University of New York at Stony Brook in 1993. His post-doctoral work was done in the McCaig Centre for Joint Injury and Arthritis at the University of Calgary. His research broadly addresses how bone cells and bone tissue perceive and respond to mechanical stimuli. This topic is approached via an integration of cell biology, physiology, and mechanics. Current efforts are focused on examining how cellular hypoxia may function as a mechanotransduction pathway within bone, development of a non-invasive device to apply controlled external loads to the mouse tibia, and identification of low magnitude loading regimens capable of building bone mass. He has been the recipient of the Orthopaedic Research Society New Investigator Recognition Award and the ASB Post-Doctoral Award. He has served as a member of NIA, NIAMS, CIHR, and Army Review Panels and reviews for a variety of journals including the Journal of Biomechanics, Journal of Orthopaedic Research, Journal of Bone and Mineral Research, and American Journal of Physiology: Cell. He began actively participating in ASB in 1986 and since 1997 has served on the Graduate Student Grant-In-Aid Committee, Awards, and Program Committees.

Mark S. Redfern, Ph.D.

Mark S. Redfern obtained his Ph.D. in Bioengineering from the University of Michigan in 1988. His graduate work focused on occupational biomechanics and electromyographic modeling. Previous to his graduate education, he trained and worked as a certified prosthetist, with clinical responsibilities in upper and lower extremity amputee care. Currently, Mark is an Associate Professor and Vice-Chairman in the Department of Bioengineering at the University of Pittsburgh. He is also Director of the Human Movement and Balance Laboratories.

Dr. Redfern's current research focuses on postural control, fall prevention in the elderly, and occupational biomechanics. He has over 40 peer review publications, 10 book chapters and over 50 proceedings and meeting abstracts. He currently serves as a member of an NIH Study Section and is an *ad hoc* reviewer for other research funding agencies. He has been a reviewer for numerous biomechanics and movement related journals, including: *Journal of Biomechanics*, *Journal of Biomechanical Engineering*, *Gait & Posture*, and *the Journal of Applied Biomechanics*. He has been active in the ASB since joining as a student member over 14 years ago and currently serves on the GIA a committee. He is also active in the Human Factor Society and IEEE.

PROGRAM CHAIR-ELECT CANDIDATES

Rodger Kram, Ph.D.

Rodger Kram received his bachelor's degree in Biology from Northwestern University (1983), his Masters degree in Physical Education at Penn State University (1986) and his Ph.D. in Organismal and Evolutionary Biology from Harvard University (1991). After a post-doc at Berkeley, he was appointed to the faculty at Berkeley in the Human Biodynamics, Bioengineering and Integrative Biology Departments. He recently moved to the University of Colorado where he is an Associate Professor of Kinesiology and Applied Physiology.

Dr. Kram's research interests concern the biomechanics of human walking and running and the biomechanical basis for the energetic cost of locomotion. His research has a strong comparative zoological component and he has studied animals ranging from ants to antelopes to elephants. He has published over 30 research articles, book chapters and invited review articles. His research is primarily funded by NIH.

Dr. Kram has been a member of the American Society of Biomechanics since 1985. He has served ASB as a referee for the Journal of Biomechanics, as a member of the education committee, awards committee and as an abstract referee for the annual meeting. If elected, his goal would be to design a meeting program that would highlight the BIO in biomechanics, feature keynote speakers from outside traditional ASB attendees and that promote scientific discussion/debate.

Irene McClay, Ph.D., P.T.

Irene McClay received her BS in Exercise Science from the University of Massachusetts, a BS in Physical Therapy from the University of Florida, an MS in Biomechanics from the University of Virginia, and her PhD in Biomechanics from The Pennsylvania State University. Currently a tenured Associate Professor in the Department of Physical Therapy at the University of Delaware, Dr. McClay has served as the Director of Research for Joyner Sportsmedicine Institute from 1997 to present. Her research is focused on understanding the relationships between lower extremity structure, mechanics and injury with the goal of developing optimal strategies for injury prevention. Current areas of study include the injury mechanics of stress fractures, anterior cruciate ligament tears and patellofemoral disorders. Dr. McClay has published in a wide range of biomechanical journals and has served on the editorial boards of the Journal of Orthopedic and Sports Physical Therapy, the Journal of Applied Biomechanics and Clinical Biomechanics. In addition, she serves as a reviewer for numerous journals including Foot and Ankle, Intl., Journal of Biomechanics and Medicine and Science in Sport and Exercise. Dr. McClay has been an active member of ASB since 1985 and has served on the membership committee from 1995-present. In addition, she is a member of ISB, the American Physical Therapy Association, and the American College of Sports Medicine. Dr. McClay has served on a number of organizing committees and was the Program Chair and Organizer for two recent research retreats: "Static and Dynamic Classification of the Foot" held last year in Annapolis, MD and "ACL Injuries: The Gender Bias" held this year in Lexington, KY. If elected program chair, Dr. McClay will strive to uphold the tradition of creative and innovative programming for the annual ASB meeting.

MEETING HIGHLIGHTS

- Wednesday, August 8, 2001**
0830 - 1130 Concurrent Labs:
1) Mechanical Properties of Frog Skeletal Muscle
2) Basic Molecular Methods to Study Gene Expression
Tutorial
Registration
Welcome Reception
- 4 PM - 6 PM
- Thursday, August 9, 2001**
8:00 AM Keynote Speaker: Dr. Geert Schmid-Schönbein
6:30 PM Dinner at Stephen Birch Acquarium
- Friday, August 10, 2001**
7:30 AM Registration
8:00 AM Keynote Speaker: Dr. James A. Spudich
- 1:50 Wine and Cheese Poster Session
- Saturday, August 11, 2001**
7:30 AM Registration
8:00 AM Keynote Speaker: Dr. Jan Fridén

KEYNOTE SPEAKERS

We are tremendously privileged to have three outstanding keynote speakers this year. Below is a brief summary of each speaker as well as their topic:

Dr. Jan Fridén is Professor of Hand Surgery at Göteborg University, Sweden. Dr. Fridén's keynote address, "Mechanical considerations in the design of surgical reconstructive procedures" will describe modern surgical methods used to reconstruct the hand and wrist as well as the way in which custom engineering tools are used to assist and refine such procedures.

Dr. James Spudich is Professor of Biochemistry at Stanford University. Dr. Spudich's keynote address, "Biomechanical design of motor molecules" will demonstrate a combination of biophysical and molecular studies that have revolutionized our understanding of molecular motor function.

Dr. Geert Schmid-Schönbein is Professor of Bioengineering at UCSD. Dr. Schmid-Schönbein's keynote address, "Fluid shear stress as a control mechanism in tissue injury," will illustrate state-of-the-art application of engineering principles to an understanding of the control of gene regulation in cells maintained.

AWARDS

The Borelli Award Lecture will be given Saturday, 11 AM

LOCATION

Price Center Ballroom, UCSD
August 8-11, 2001

SPONSORED BY

University of California, San Diego
American Society of Biomechanics
Whitaker Institute of Biomedical Engineering, UCSD

FOR FURTHER INFORMATION

University of California, San Diego
Office of Continuing Medical Education
La Jolla, CA 92093-0617
Toll free (888) 229-6263 or (858) 534-3940, FAX (858) 534-7672
Visit us at <http://cme.ucsd.edu>

ACCOMMODATIONS

A block of rooms have been reserved at the UCSD Residence Halls for participants of this conference. Each facility includes 3 meals, served daily, linens and a parking permit. Please note: This is true "dorm-living". A housing reservation form will be sent with your confirmation letter or you may download a printable form at <http://cme.ucsd.edu>. For questions please call the UCSD, Housing Office at (858) 534-4220.

Thurgood Marshall Apartments

\$73.00 per person - single occupancy
\$66.00 per person - single occupancy

Muir Residence Hall

\$63.00 per person - double occupancy
\$58.00 per person - double occupancy

A block of rooms have been reserved at the Radisson Hotel La Jolla. A special rate of **\$139 Single** or **\$149 Double** is available for participants of this program. Please make your reservations as early as possible and prior to **June 7, 2001**. Be sure to identify yourself as a participant of the ASB conference.

Radisson Hotel La Jolla

3299 Holiday Court
La Jolla, CA 92037
(858) 453-5500
FAX (858) 453-5550

TRAVEL

United and American have been selected as the official airlines for this meeting.
You may call **United Airlines** direct at 1-800-521-4041 and ask for Tour Code #555JS, or call
Call **American Airlines** direct at 1-800-433-1790 and ask for Star #12443.
Discount Car Rentals: AVIS has been selected as the official car rental company for this meeting. Call (800) 331-1600 and refer to AVIS World Wide Discount #K261610.

Mail to: ASB Registration,
Office of Continuing Medical Education,
La Jolla, CA 92093-0617.
Toll Free (888) 229-6263
or (858) 534-3940, FAX (858) 534-7672,
<http://cme.ucsd.edu>

Name _____
Address _____
City _____
State _____ Zip _____
Phone _____
Fax _____
Email _____

FEES: Before 6/7 After 6/7
Members \$220 \$250
Student Members \$30 \$45
Non-Members \$265 \$295
Student Non-Members \$50 \$65

Lab #1 (Muscle) \$50

\$25 (Students)

Lab #2 (Mol Bio) \$50

\$25 (Students)

\$25

Free (Students)

Tutorial

Total: \$ _____

Make checks payable to: **UC Regents**

Visa Mastercard American Express

Diners Discover

Card Number _____

Expiration Date _____

Signature _____

Mark your calendars ...

ASB 2002 to be held in conjunction with the IV World Congress of Biomechanics

IVworld
congress
biomechanics

IVworld
congress
biomechanics

WCB2002
Travel Gallery
Attention: Mike Mather
206 - 4616 Valiant Drive NW
Calgary, Alberta, T3A 0X9, Canada
Tel.: (403) 202-3862
Fax: (403) 247-6839
E-mail: mmather@tgicalgary.com
www.wcb2002.com

**First
Announcement**

**Calgary
August 4 - 9, 2002**



www.wcb2002.com

AMTI

Biomechanics Force Platforms and BioSoft as innovative as the professionals who use them.



AMTI's Biomechanics Force Platforms

- ◆ Precision measurements for Gait, Balance, and Sports
- ◆ Outstanding edge-to-edge accuracy and long term stability for both static and dynamic applications.
- ◆ 12 standard sizes—with custom sizes available
- ◆ 6-Year warranty

BioSoft Data acquisition and analysis software

- ◆ Collect and analyze data from up to 4 force platforms, with 8 extra channels for other instruments
- ◆ Extensive analysis modules and statistical capabilities
- ◆ Export graphs, data, and statistics into standard spreadsheet and word processing applications.

Accusway System and SWAYWIN software



- ◆ For Balance and Postural Sway measurement
- ◆ Lightweight, low profile, portable design is ideal for laptops in the field or desktops in the lab.
- ◆ Extensive analysis, plotting, and statistical information

With AMTI, exceptional biomechanical analysis isn't a goal. It is a given

Call toll free 1-800-422-AMTI for more information and to speak with an AMTI representative.

AMTI

ADVANCED MECHANICAL TECHNOLOGY, INC.
176 Waltham Street, Watertown, MA 02172-4800

1-800-422-AMTI

Tel: 617-926-6700 ◆ Fax: 617-926-5045
www.amtiweb.com ◆ sales@amtiemail.com

