

NEWSLETTER

March, 1996

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PRESIDENT'S MESSAGE

The biannual conference of the Canadian Society for Biomechanics is the highlight event of our organization. The conference has a variety of purposes: It is a place for disseminating and communicating the latest research to our colleagues; we meet for the (bi-) annual general meeting to discuss society business; we honour researchers who have supported the CSB throughout their careers, and those young and bright students for their early achievements.

But, above all, we meet as friends, colleagues and collaborators in a friendly and constructive

atmosphere. In this sense, I hope that you have already highlighted the dates of the next meeting, August 21-24, 1996, at Simon Fraser University.

There are many aspects of the CSB conference which are unique, for example, the locomotion symposium, or the way we select the winners of the New Investigator awards. The New Investigator awards always had a special meaning for me, because I feel it is a way to honour early achievements in a scientific career, and to give encouragement to young scientists.

Therefore, I would like to encourage all supervisors who have students just finishing their Masters, Doctoral, or postdoctoral training to participate in the New Investigator Award Competition. From all submissions, three finalists will be selected in the Masters (for M.Sc. students) and the open (for Ph.D. and postdoctoral students) competition. The finalists will be required to submit a full-length manuscript of their work, and present their research at the CSB conference.

For the first time at a CSB conference, we also attempt to have special sessions: workshop seminars and panel sessions. The workshop sessions are interactive sessions in which controversial topics, new research findings, or new technological approaches are discussed among the workshop leaders and the attendants. The panel sessions are aimed at the formal review of a topic in biomechanics followed by an open discussion.

The CSB conference in 1996 may also provide an excellent opportunity to interact with some of our international colleagues. The ISB council members will meet at our conference for their annual meeting. Many of the ISB council members are excellent scientists of international reputation, and we will encourage them to contribute to and participate in our scientific sessions. Presently, the ISB council is comprised of the following members: A van den Bogert, P. Cavanagh,

B. Davis, B. Elliot, S. Fukashiro, M. Grabiner, M. Hubbard, T. Montani, S. Olney, G. Rau, A.

Thorstensson, K. Vaughan, S. Woo, G. Wood, F. Yeadon, R. Zernicke.

Looking ahead in the planning of the CSB conferences, we have glimpsed at the conference in 1998. Keeping with the "established" six year rhythm of NACOB meetings (the combined CSB-ASB meeting), we tentatively approached the American Society of Biomechanics with a plan for 1998

Stuart McGill has offered to host the next NACOB meeting at the University of Waterloo.

Obviously, these arrangements are tentative and have to be discussed with the ASB; however, I would like to thank Stuart for his initiative, and hope that his quest to hold the NACOB 1998 conference in Waterloo will be successful.

I wish you all the best and research success for 1996, and hope to see you in August at our biannual conference.

Walter Herzog

President

STUDENT REPRESENTATIVE'S MESSAGE

Hi all. I wanted to update everyone on the progress of the list I told you about in the last newsletter. You will be happy to know that it is now up and running.

Here is the information to subscribe...

1) Send mail to listproc@liverpool.ac.uk

2) Omit the subject

3) Send a one line message of the form:

SUBSCRIBE BIOMECH-STU Patricia Turnbull

(replace Patricia Turnbull with your own name)

4) Shortly after successfully joining you will receive a welcome message.

PLEASE keep this in a safe place....it contains important information which

you will need if and when you decide to leave BIOMECH-STU.

Remember, this list is mainly directed at students of biomechanics, however, everyone is

welcome to join. I am also interested to know from students what ideas they have for the upcoming CSB conference at Simon Fraser University. I am hoping to have a meeting with the students at the conference. We will discuss the topics you write to me about and vote for a new student representative. Drop me a line in person or through the group and let us know what you are doing.

Cheers,

Patricia Turnbull

Student Representative

E-mail: aa791@freenet.hamilton.on.ca

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Hannon, Ontario. L0R 1P0

UPDATE ON 1996 CONFERENCE

EXTENSION OF ABSTRACT RECEIPT DEADLINE

TO MARCH 22

Preparations for the 1996 conference are well under way. The executive of CSB met at SFU on Saturday March 2 and we can confirm that the campus, overlooking the city of Vancouver and with breathtaking views of the Rockies, is truly beautiful.

The program too is attractive. The organising committee is introducing several innovations this year: the special panel sessions, two pre-conference mini-courses, Best Poster Awards..

The special panel sessions will cover the following topics:

1. Cellular Biomechanics. Chair: G. Tibbits. Confirmed invited speakers: H. Granzier, G. Pollack.
2. Skeletal Muscle Models. Chair: W. Herzog. Confirmed invited speakers: J. Bobet, T.v.d. Bogert, M. Epstein, P. Huijing, R. Lieber.
3. Motor Actions of Proprioceptive Feedback. Chair: T.R. Nichols. Confirmed invited speakers: T. Milner, T.R. Nichols, K. Pearson, A. Prochazka.
4. Biomechanics in the Workplace. Chair: S. McGill. Confirmed invited speakers: S. Kumar, J. Morrison, R. Wells.

The Locomotion Symposium for the IX Conference will be on the topic of Mobility in the Elderly.

It will be chaired by A. Patla and will include J. Duysens, A. Shumway Cook and D. Winter as confirmed speakers.

In accordance to its mandate to promote education and research in Biomechanics, CSB is sponsoring two half day mini-courses for students and researchers who wish to update their

knowledge in these areas. The mini-courses will be held on Wednesday August 21, 1996, just before the Welcoming Reception. More information will be available soon.

The organising committee has reserved affordable accommodation on campus within walking distance to the conference. Single bedded rooms will be available in a traditional style dormitory building for \$29.90/night. Townhouse units with 4 single rooms, living room, kitchen, and two washrooms will also be available for \$37.95/night (single) or \$105.80/night (family). Taxes are included. Off-campus hotel recommendations can be obtained on request.

The conference will start on Wednesday August 21 with the Welcoming Reception and end on Saturday night with a cruise through Burrard Inlet during which a delicious meal will be served in a casual atmosphere.

Don't forget the CSB Awards for the best papers submitted by young investigators and that (limited) student stipends are available. Conditions and details in this issue.

Important Dates

March 22, 1996

New Deadline for Abstracts

Deadline for Submissions for SCB/CSB

Masters and Open New Investigators Awards

May 1, 1996

Notice of Acceptance or Rejection of Abstracts

June 10, 1996

Advanced Registration

August 21-24, 1996

Conference

For Further Information:

On Conference

Conference Coordinator

Penny Southby

Conference Services, Halpern Centre,

Simon Fraser University,

Burnaby, British Columbia,

CANADA V5A 1S6

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Accommodation Coordinator

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J.A. Hoffer

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CONFERENCE SCB 1996

LA DATE LIMITE POUR LES RESUMES EST

REPOUSSEE AU 22 MARS

Les préparatifs de la conférence de 1996 sont bien avancés. L'excutif de la SCB a tenu sa

r,union annuelle sur le campus de Simon Fraser et nous pouvons confirmer que le campus, qui domine la ville de Vancouver et offre des vues splendides sur les montagnes, est magnifique.

Le programme de la conf,rence est excellent lui aussi. Le comit, d'organisation a fait quelques innovations cette ann,e: panels sp,ciaux, mini-cours, prix pour les meilleurs posters, etc..

Les panels sp,ciaux couvrent les sujets suivants:

1. Biom,canique cellulaire. Pr,sident: G. Tibbits. Conf,renciers invit,s ayant confirm,: H. Granzier, G. Pollack.
2. ModŠles du muscle squelettique. Pr,sident: W. Herzog. Conf,renciers invit,s ayant confirm,: J. Bobet, T. v. d. Bogert, M. Epstein, P. Huijing, R. Lieber.
3. Aff,rences proprioceptives et performance motrice. Pr,sident: T.R. Nichols. Conf,renciers invit,s ayant confirm,: T. Milner, T.R. Nichols, K. Pearson, A. Prochazka.
4. Biom,canique en milieu de travail. Pr,sident: S. McGill. Conf,renciers invit,s ayant confirm,: S. Kumar, J. Morrison, R. Wells.

Le symposium sur la locomotion de la IX Šme conf,rence aura pour thŠme "La mobilit, chez les aĀEn,s". Il sera pr,sid, par A. Patla et les conf,renciers seront J. Duysens, A. Shumay Cook et D. Winter.

En accord avec son mandat de promouvoir l'éducation et la recherche en biomécanique, la SCB subventionne deux mini-cours d'une demi-journée pour les étudiants et les chercheurs qui désirent mettre à jour leurs connaissances sur un des ces sujets. Les mini-cours se tiendront, juste avant la réception d'accueil le 21 août.

Le comité d'organisation a réservé des logements abordables sur le campus ... proximité du site de la conférence. Des recommandations pour des hôtels hors campus sont aussi disponibles sur demande. Des chambres simples dans les résidences étudiantes seront disponibles pour \$29.90 par nuit. On peut aussi réserver des maisonnettes de 4 chambres simples pour \$37.95/nuit (chambre simple) ou \$105.80/nuit (famille). Les taxes sont incluses dans les prix.

La conférence commencera mercredi 21 août avec la réception d'accueil et se terminera samedi 24 avec une croisière ... travers Burrard Inlet. Un souper sera servi dans une ambiance détendue.

Noubliez pas aussi les prix aux jeunes chercheurs et l'aide financière pour les étudiant(e)s. Les conditions sont décrites plus loin dans ce numéro.

Dates Importantes

22 mars 1996

Nouvelle date limite pour envoyer

les r, sum, s

1er mai 1996

Acceptation des r, sum, s

10 juin 1996

Date limite pour l'inscription

... prix r, duit

21-24 août 1996

Conf, rence

Pour plus d'information

Sur la conf,rence

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Penny Southby

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Burnaby, British Columbia,

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Fax: (604) 291-3420

E-mail: conference_services@sfu.ca

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Accommodation Coordinator

Suzanne Nazareno

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Simon Fraser University, Web Home Pages:

Burnaby, British Columbia, <http://fas.sfu.ca/Oh/kin/fac+staff/hoffer.html>

V5A 1S6, CANADA <http://fas.sfu.ca/Oh/css/members/hoffer.html>

CANADIAN SOCIETY FOR BIOMECHANICS/

SOCIÉTÉ CANADIENNE DE BIOMÉCANIQUE

MASTERS AND OPEN NEW INVESTIGATOR AWARDS

One Open and one Masters New Investigator Award will be given biennially. Winners of the CSB/SCB New Investigator Awards will receive an award certificate and a cash prize. Eligibility criteria for the two awards are similar with the Masters award given in italics.

1. A two-page paper and short abstract as required in the call for papers.
2. A statement of Degree enrolment or Postdoctoral employment dates, date of degree conferment (if applicable), institution and supervisor.
3. A letter from the student's supervisor stating that the experimental design, execution of the research and the paper are essentially the student's.
4. A letter indicating for which award the person is applying.
5. The applicant must not have won the same award previously.
6. The applicant must be the first author and present the paper at the Congress.
7. The research must not have been published or presented at a national or international conference.
8. The research was conducted largely by the applicant while enrolled in a Masters, Doctoral or Postdoctoral program. The research was conducted for a thesis or

project whilst the applicant was enrolled as a Masters degree student.

A short list of three finalists will be selected. The finalists will be required to submit a full length double-spaced manuscript, ready for submission to a journal, not exceeding 15 pages of text plus references, figures and tables.

CSB/SCB AWARD SUBMISSIONS

Candidates must submit all necessary documentation no later than the deadline for the call for papers, March 22, 1996. Finalists will be informed by May 1, 1996, and will be required to submit their full (15 page) paper by July 1, 1996.

FINANCIAL AID FOR STUDENTS

ATTENDING 1996 CONFERENCE

Due to the success of the last conferences, the society is in good financial standing. Therefore, the executive has decided to keep the Financial Aid program for students. This is to help defray part of the registration/accommodation costs of CSB/SCB student members who are presenting papers at the CSB/SCB conference. To apply, please send the following to the Secretariat by July 1, 1996.

1. A copy of the letter which states that your paper has been accepted for presentation,
2. a short note indicating that you wish to apply for the special financial aid for students, and
3. if you are not yet a member of the CSB/SCB, a membership application and dues.

NOTE: You must be a student at a Canadian university to be eligible for the financial aid.

The amount awarded to each student is dependent upon the number of applicants. (In the past, it varied from \$150.00 to \$200.00.)

Cheques will be issued at the conference itself.

SECRETARIAT:

Dr. Tim Bryant

Department of Mechanical Engineering

Queen's University

Kingston, Ontario

K7L 3N6

AIDE FINANCIERE POUR LES
ETUDIANT(E)S PARTICIPANT A
LA CONFERENCE DE 1996

Avec le succès des derniers congrès, la société, est en bonne position financière et l'exécutive a décidé de maintenir le programme d'aide financière aux étudiants. Le but est d'aider ... d'effrayer les coûts d'inscription et de séjour des étudiants de la SCB qui donnent une présentation ... la conférence de la SCB. Pour faire une demande, envoyez les documents suivants au Secrétariat avant le 1er juillet 1996.

1. Une copie de la lettre d'acceptation de votre papier,
2. une courte lettre indiquant votre intention de demander une aide financière pour étudiant(e)s, et
3. Si vous n'êtes pas membre de SCB, une demande d'adhésion et le paiement de la cotisation.

Remarque: Vous devez être inscrit dans une université, Canadienne pour être
éligible ... l'aide financière.

Le montant accordé, ... chaque étudiant(e) dépendra du nombre de demandes (\$150.00 ...
\$200.00 dans le passé.) Les chèques seront remis ... la conférence même.

SECRETARIAT:

Dr. Tim Bryant

Department of Mechanical Engineering

Queen's University

Kingston, Ontario

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CSB NOTICES/ANNONCES SCB

Students' Participation

The CSB executive strongly believes in
importance of students' participation in the

Society of Biomechanics. For this reason, students are encouraged to attend the biannual meeting and (limited) financial support is available to facilitate the participation of students members who present their work at the conference. This year, two pre-conference mini-courses have also been organised and are sponsored by CSB so that only a minimal fee is required to attend.

In addition, students are encouraged to write articles for the Newsletter to present their perspective or report on news and initiatives of interest to students and other members.

Graduating students are also invited to send the abstract of their thesis for publication in the Newsletter which gives them an opportunity to advertise themselves if they are on the work market.

The executive is asking for bids to organise the CSB biannual conference in year 2000. Stuart McGill has volunteered to put together the third NACOB at Waterloo in 1998, but there are no plans yet for 2000. If been the organiser of CSB 2000 appeals to you (does not it sound catchy?), please contact CSB president Walter Herzog before August 1 1996.

Participation Etudiante

L'ex,cutif de SCB croit fermement ... l'importance de la participation ,tudiante dans la Soci,t, de Biom,canique. Pour cette raison, on encourage les ,tudiant(e)s ... assister ... la conf,rence et une aide financiŠre (limit,e) est disponible pour faciliter la participation des ,tudiant(e)s qui d,sirent pr,senter leurs travaux ... la conf,rence. Cette ann,e, deux mini-cours sont aussi organis,s et subventionn,s par SCB de fa#on ... ce que les co-ts soient abordables pour les ,tudiant(e)s.

De plus, on encourage les ,tudiant(e)s ... ,crire dans le journal de la Soci,t, (en français ou en anglais) pour pr,senter leur point de vue ou annoncer des nouvelles ou initiatives d'int,r^t pour les ,tudiant(e)s et les autres membres de la Soci,t,. Les ,tudiant(e)s qui terminent leur thŠse sont aussi invit,(e)s ... envoyer le r,sum, pour publication dans le journal, ce qui leur donne une chance de faire connaĀtre leurs travaux en particulier si elles (ils) sont sur le march, du travail.

Conf,rence 2000

L'ex,cutif invite les soumissions pour organiser la conf,rence de la Soci,t, Canadienne de Biom,canique en l'an 2000. Stuart McGill a offert d'organiser le troisiŠme NACOB en 1998, mais rien n'est encore pr,vu pour 2000. Si vous ^tes tent,s par l'id,e d'organiser SCB 2000 (cela

sonne bien, n'est-ce pas?), contacter le pr,sident
de SCB, Walter Herzog, avant le 1er août 1996.

DUES

Fees for the 1995-96 membership are now
overdue. If you have not sent them yet or if you
wish to join the Society, please complete the
membership application form and return it with
your cheque to the CSB's Secretariat (address
under YOUR EXECUTIVE).

COTISATIONS

Il est maintenant temps de payer les cotisations
pour 1995-96.

Pour renouveler son inscription ou pour s'inscrire,
remplir le formulaire d'adh,sion et le retourner au

Secr,tariat avec un chŠque (adresse sous la
rubrique VOTRE EXECUTIF).

BOOK REVIEW

Biomechanics of the Musculo-skeletal System

Benno M. Nigg and Walter Herzog Editors. Published 1994 by John Wiley & Sons
Ltd., Baffins Lane, Chichester, West Sussex PO91 UD, England. (579 pp.)

Reviewed by Patricia Turnbull, Student Representative

This book contains 4 major sections related to the development and present state of research in biomechanics. Each chapter contains information contributed by experts at the University of Calgary. The sections encompass the history of the development of the science of biomechanics, biological materials that are an essential component in the study of biomechanics, various measuring techniques and modelling techniques associated with this science. What makes this book and the material in it exceptional are the contributions of individuals from a variety of disciplines.

Chapter 1 is an introduction to the science of biomechanics. It provides thorough historical highlights. It shows the importance of the evolution of this science and grounds biomechanics to more traditional sciences such as mathematics, physics and biology.

Chapter 1 also contains a mechanics section. This section is short and to the point.

Perhaps it is a bit too short. Of course one has to remember that this book is directed at the senior undergraduate or graduate biomechanics student. Hopefully the student using this text has some statics and dynamics mechanical engineering courses.

Chapter 2, entitled Biomaterials, focuses on bone, articular cartilage, ligament, tendon, muscle and joints. I found it interesting to see an articular cartilage section. To my knowledge this is not common in books on biomechanics. As an individual who has had maybe 4 weeks total instruction on the biomechanics of biomaterials, I found this chapter to be particularly insightful. Each subsection reads like attending a well laid out and interesting lecture. I especially enjoyed the section on muscle. While reading this, I was very aware of the author's in-depth knowledge in this area. He points out what are concrete known facts and what areas or ideas still need to be clearly defined.

The third chapter gives a concise overview of measuring techniques that are available for different types of biomechanical research. This section is a must for students in an equipment and methodologies course. It connects the input (i.e. subject response) to the outcome (i.e. data output). It helps explain why we get the results we do from various equipment. I found the section on strain measurement to be very in-depth. Who would have thought that measuring strain-which seems to be such a simple concept-could be so complex? This chapter also brings measurement into the 1990s.

BOOK REVIEW

- Continued.

The last chapter deals with modelling. The introductory subsections define exactly what a model should be and how generally to proceed in a modelling situation. The next section proceeds to introduce various models. Examples range from simplistic models (ex. no force) to more complex models (ex. elastic and viscoelastic shoe soles and surfaces). This chapter is most definitely aimed at a student with at least an introductory course in statics and dynamics. A new student to biomechanics would probably be overwhelmed with this chapter.

Like any good mechanics text, this one has some examples appropriate to its study's applications. Unfortunately, the Energy Consideration subsection does not follow this rule. It would have been nice to tie what seems to be a purely mechanical subsection to a more biological viewpoint.

Overall I found the book to be well researched and put together. I particularly appreciated the definition of terms and historical highlights provided at the beginning of each section. It was also very nice to see examples and applications of real world situations, in most areas of the book. I found the book presented two views of biomechanics-one from an internal structure and one from an external outcome. It was also evident why each view was important in itself and how the two views relate to each other. One thing I know, I wish I had a reference text like this while I was taking some of my undergraduate and graduate courses.

YOUR EXECUTIVE/VOTRE EXECUTIF

CSB/SCB

1994-96

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CANADIAN SOCIETY FOR BIOMECHANICS

SOCIT CANADIENNE DE BIOMCANIQUE

Membership Application/Demande d'Adh,sion

Name/Nom

Degrees or Diplomas/Diplômes

Business Address/Adresse d'affaires

Postal Code/Code Postal

Telephone

E-mail

Fax

Home Address/Adresse Personnelle

Postal Code/Code Postal

Telephone

Areas of Research Interest/Intérêts de recherche

Current Research/Recherche actuelle

Member (\$15.00) Membre (15,00 \$)

Student (\$ 8.00) Student (8,00 \$)

Signature

Date

Send this form with your remittance to:

Renvoyer ce Formulaire avec votre cotisation ...:

Secretariat, Canadian Society for Biomechanics,

c/o Dr. J.T. Bryant,

Department of Mechanical Engineering,

Queen's University, Kingston, Ontario. K7L 3N6

→