



EUROPEAN SOCIETY OF BIOMECHANICS

NEWSLETTER JUNE 1990

LETTER FROM THE PRESIDENT PROF. RIK HUISKES.

I am particularly pleased to answer the call from the Newsletter Editor this time, first of all because he promised not to take my picture again and secondly because the publication time of this issue, just before the Conference in Aarhus, seems very appropriate.

The Society is booming, without doubt. The 7th General Meeting in Aarhus looks very promising, professionally and socially, and we expect a high attendance. Three awards will be given at the conference, and an additional one, the ESB Travel Award, is on its way. Plans for the 8th General Meeting in Rome, under the supervision of Aurelio Cappozzo, are already established. The Council is functioning extremely well, and our membership is still increasing.

As you know, the ESB is co-sponsoring the First World Congress of Biomechanics in San Diego, August 30th through September 4th. This will be another good occasion to meet. More than 1200 attendants are expected, and the programme is huge (it has not been sent around yet, however).

On Wednesday July 11th, a General Assembly is planned in the Aarhus programme. One point on the Agenda is my resignation from the Council, and high time it is! The Society was formed in Brussels, in the spring of 1976, following an initiative from Franz Burny, by (I seem to remember) about 23 orthopaedic surgeons, one or two biologists and three engineers. I have been in the Council since then, first as Chairman of the Editorial Committee, and later serving as Secretary, Vice-President and President. Personally, I believe 14 years is much too long, and indeed, one of my last actions as President will be to draft new articles in the By-laws, restricting council membership to a maximum of two 4-year terms, and limiting the Presidents term-in-office to a maximum of two 2-year terms.

The Society has changed over the years. The atmosphere is more professional, and the number of clinicians has declined in favour of engineers (the American Society of Biomechanics has decided, democratically, that they are to be called 'Biomechanists', not 'Biomechanicians'). I can understand that this is being regretted by some, but I believe such a development is inevitable, in view of the professional level to where Biomechanics has grown. It would be extremely difficult for a clinical practitioner to find the time to keep up with the complexities of the scientific developments in

Biomechanics. However, it is still very important that the Society tries to uphold the interest from clinical fields of application.

I am not the only person resigning from the Council in Aarhus. Aurelio Cappozzo and Rheinhardt Kolbel will also step down. Aurelio was in the Council for 8 years, and Rheinhardt for 6 years. They both worked very hard, and have been indispensable for the development of the ISB and of course, will also be the first responsible for the organization of the meeting in Rome. Unfortunately Wilmi Goossens, my secretary and also the professional secretary for the Society for many years (assisting both Ivan Hvid and Erich Schneider, and running the secretarial office of the society), will resign from her job in August, to go back to the university. The Society owes her a great deal, and she will certainly be missed.

I am very happy that I can leave behind an able group of colleagues in the Council. Ivan Hvid and Erich Schneider are running their offices superbly, and Peter Walker has agreed to assume the Presidency. I could not have wished for a better successor!

There are many challenges in the future for the Society. Europe is growing, and the Society should try to increase the involvement from the East European Countries. An increasing number of funding programmes for scientific research now originates from the EC in Brussels. There could be a coordinative task for us there. We are making a bid for the organization of the Second World Congress of Biomechanics in Europe, in collaboration with a number of individuals who are not members of the ESB, but call themselves 'Fluid Biomechanicians' (they call us 'Solid Biomechanicians', by the way). The organization of this World Congress is a challenge indeed. And another one would be to win these 'Fluid Biomechanicians' for the Society! we have always pretended to be general Biomechanics Society, not just a 'solid' one. And finally, there is the continuing challenge of keeping the Biology of Biomechanics alive and well within the Society; that is what makes it special.

I am happy to be able to resign from the Council before I am actually kicked out. I will surely miss the challenge of the Society's development, and the collaboration and friendship in the Council, over the years. I thank you all for the opportunities I had.

Rik Huiskes

Council of the ES Biomechanics

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A REPORT FROM OUR SECRETARY, ERICH SCHNEIDER, ON THE RECENT EXECUTIVE COMMITTEE MEETING.



The Executive Council of the European Society of Biomechanics met on April 7, 1990 in Maastricht, The Netherlands, subsequent to the Symposium on Hydroxy-apatite Coatings in Orthopaedic Surgery, organized by the Universities of Maastricht and Nijmegen. The following information from this meeting will be of interest for our members.

The preparations for the ESB Conference in Aarhus, July 8-11, 1990 are well underway. The programme of the precourses July 8 and of the three congress days is attractive and promises to draw a large number of participants to Aarhus. A programme booklet has recently been sent to all ESB members. Besides the keynote lectures given

by a prestigious group of scientists, the session of the Clinical Award Papers seems to be one of the highlights of the conference. From many abstracts submitted with particular clinical relevance, five contributions have been selected for presentation in a combined session. One of these will be ultimately selected by the Special Committee to win the award. The authors will receive the award during the banquet organized on the Tuesday evening. Further awards will be given during the Congress: an award for the best poster and the ESB Award, for which an extended manuscript had to be submitted.

Details for the next Congress in 1992, which will be organized by Prof. A Cappozzo in Rome, have been received. All members may be looking forward to another stimulating meeting in a lovely environment and close to many famous historical sites.

There have been a number of specialised workshops organized by members of the ESB on such topics as strain gauge techniques, image processing biotelemetry, fracture healing, to mention only a few. Any member wishing to organize another such workshop is encouraged to do so by informing a member of the Council of its plans. Experiences of previous organizers and other support is available from the Council, but ESB support can be invaluable in many ways.

Other topics covered by the Council are reported elsewhere in this Newsletter.

AARHUS MEETING BIGGER THAN EVER

A Report from the Programme Chairman, Ivan Hvid.

7th Meeting of the European Society of Biomechanics, July 8-11, 1990, Aarhus, Denmark.

The Final Programme of the 7th ESB Meeting should have reached all members of the ESB by now. We have been delighted about the quality of submissions, and fortunately we have had to reject relatively few. All information relevant to the Meeting is contained in the Final Announcement.

We hope that many of you will attend the Pre-courses on Sunday, July 8. The subjects are "The Cellular Bases of Bone Remodelling", "Three Dimensional Analysis of Knee Joint Motion", "Mechanical Testing of Hard Tissues", and "Cardiovascular Fluid Dynamics", all courses being staffed with expert international faculties. In the evening of Sunday, July 8, in connexion with the Get-Together-Party at the University, the Meeting will be officially opened, and there will be short addresses by the Head of the University, the President of the ESB, and the Chairman of the 7th Meeting.

Hopefully, you have noted the pre-congress meeting featuring the 1st workshop of the European Orthopaedic Research Society. Participants of the 7th ESB Meeting are invited to join this workshop on Saturday, July 7 as well.

In the main ESB meeting there will be approximately 140 oral presentations in three parallel sessions and 68 posters, covering all aspects of biomechanics. As in previous years, the majority of presentations deal with orthopaedic aspects. This is also reflected in

the list of key-note lecturers, although we have succeeded in including several other aspects of biomechanics as well.

An exciting feature of the programme in this year's Meeting is the plenum-session with presentations competing for the Clinical Biomechanics Award. The papers selected for this session are of a very high standard indeed. Although the Clinical Award Committee will eventually decide on the winner, the audience have the opportunity to influence the decision with positive or negative criticisms of the work presented. The Chairman of the ESB Award Committee, Aurelio Cappozzo, has informed us that there are several submissions for the full-paper Award, so hopefully also this part of the programme will be effected this year.

Included in the social programme - and included in the conference fee - are a reception buffet in the City Hall on Monday, July 9th, and a Banquet on Tuesday, July 10th. During the Banquet, the Clinical Biomechanics Award and the Poster Award will be presented to the winners. There will be live music during and after the banquet, and dancing will not be discouraged before it gets quite late.

At present, we are following the progress of registration with eager interest. Be sure that your name will appear on the list very soon. We look forward to welcoming you in Aarhus.

Key Dates

Sat. 7th July	1st Workshop of the European Orthopaedic Research Society
Sun. 8th July	ESB Registration 09.00-10.00. 15.00-18.30 Precourses 10.00 - 16.00 Get Together Party 18.30
Mon. 9th July	Sessions 09.00-17.30 Reception Buffet 18.30
Tues. 10th July	Sessions 08.00-17.30 Banquet 19.30
Wed. 11th July	Sessions 09.00-17.30.

ADVANCE NOTICE OF THE 1992 ROME MEETING

From: Aurelio Cappozzo

The 8th Meeting of the European Society of Biomechanics will be held 21-24 June 1992, in Rome, Italy. It will be organised between Istituto di Fisiologia Umana, Università di Roma "La Sapienza", Istituto di Scienza dello Sport and Scuola dello Sport, Coni.

The Meeting will include instructional courses, keynote addresses, oral and poster presentations of original research, and commercial exhibitions.

The scientific programme of the Meeting will cover all areas of biomechanical research. These include:

Basic Research on:

Biological material mechanical properties, Biological fluid dynamics, Muscle mechanics, Skeletal mechanics, Joint Mechanics Human movement & Animal movement

Applied Research in:

Orthopaedics, Traumatology, Rehabilitation, Dentistry, Neurology, Sports and exercise & Ergonomy

Methodology

Biomechanics is, by definition, multidisciplinary and as such, brings together scientists and professionals with different cultures and related languages. This may entail communication problems among the attendees of the Conference. For this reason authors are explicitly asked to make a special effort and write their papers and address the audience with a language comprehensible to everybody.

During the Conference the ESB Research Award, the Clinical Biomechanics Award, and the Poster Award will be given.

The Meeting will be held at the Scuola dello Sport - via dei Campi Sportivi - Roma.

The Meeting site is located in a large green area not far from the historical centre of Rome. A frequent train, which stops at five minutes walk from the Meeting site, takes you to the historical centre in fifteen minutes. Hotels of various sorts may be found close-by. A limited number of inexpensive accommodations located within the Scuola dello Sport are also available.

For further information and in order to be included in the mailing list, please contact the Conference Secretariat.

Conference Secretariat

ESB92

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The present and future meeting Chairmen, Ivan Hvid (right) & Aurelio Cappozzo, discuss conference arrangements

BRISTOL, AARHUS, ROME, ?

We enjoyed the Bristol meeting, we expect a stimulating meeting in Aarhus next month, and we have the prospects of a fine location in Rome to look forward to in 1992. It may seem surprising to look beyond 1992, but an amazing amount of pre-planning is needed for our increasingly expansive conferences. Therefore, we must look to 1994! At the present time no plans have been made, but now is the time to offer your submission. If you would like to host the 1994 conference in your town or city, please send a proposal to our Secretary. While you will undoubtedly earn a great deal of appreciation from society members, do not underestimate the time and effort required! In your letter to Erich, please give enough details about location of the Conference itself, hotel accommodation, transportation, and so on. As well as proposals, we welcome suggestions about preferred locations. Please write to: Erich Schneider, Maurice Muller Institute of Biomechanics, Faculty of Medicine,

University of Bern, Murtenstrasse 35, CH-3008 Bern, Switzerland.

ESB SPONSORED WORKSHOPS

As our Secretary mentioned earlier in this Newsletter, there have been several workshops held in the past year with ESB Sponsorship. They have been on specialised subjects and have attracted a selected group of dedicated researchers in the particular areas. Such workshops can play a very important role in exchanging up-to-date information in a detailed way, and allowing open discussion between specialists, and even stimulating collaborative arrangements. An additional format is an instructional course for educational purposes of less experienced researchers or those in different fields.

An ESB sponsored conference to take place shortly is entitled 'Biomechanics of Fracture Healing' organised by Professor L Claes. It will be held from 11-14th July, in no less place than the University of Ulm and the Reissensburg Castle! Note that this is a satellite meeting, after the Aarhus meeting.

Sponsorship by ESB can assist in several ways: providing names of possible attendees, circulating the details to members, notices in the Journal of Biomechanics, and in general organisation. Enquiries can be made initially to Erich Schneider.

NEW MEMBERS TO JOIN ESB

At the recent Executive Council Meeting, 10 new members were accepted for membership. They are from countries as far away as Australia and The Peoples Republic of China!

M R Forwood, St Lucia, Australia
B B Fudala, Sittard, The Netherlands
M Hilding, Vasteras, Sweden
H Inaba, Akita, Japan
B R Merz, Winterthur, Switzerland
A W Miles, Bath, England
P A Proschel, Erlangen, FRG
K M Tillotson, Huddersfield, England
S Toksvig-Larsen, Lund, Sweden
Y J Wang, Shanghai, PR China.

We hope that you will make a point of meeting these new members and welcoming them to our Society.

ES BIOMECHANICS PARTICIPATES IN ES BIOMATERIALS MEETING IN 1991.

David Williams informs us that his preparations for the Biomaterials meeting in Liverpool, 9-11th September 1991, are well under way. By an arrangement made with Pascal Christel and David Williams in Heidelberg, we were offered to arrange a full session on biomechanics. The aim is to present work of mutual interest and to help bridge the gap between biomechanics and biomaterials. We chose a title of Biomechanics of the Implant - Bone Interface. Rik Huiskes will be the main Keynote speaker, and will present on a paper entitled 'Mechanical Optimisation Methods for Implant Design'. In addition, there will be three other talks of 30 minutes duration, each followed by plenty of time for discussion. This will be an important session and we expect a great deal of interest from researchers in both the biomaterials and biomechanics areas. Peter Walker is organising the session and will be pleased to receive propositions for speakers (Please phone London UK 081-9540956).

THE FIRST WORLD CONGRESS OF BIOMECHANICS

This major biomechanics conference will be held in San Diego, California, from 30th August - 4th September, 1990. It has been organised by an International Steering Committee, including members of ES Biomechanics and ES Biomaterials, such as Rik Huiskes, Pascal Christel, Alf

Nachemson, Franz Burny, Stephan Perren and Andries Viidik. The conference will cover a wide range of topics in biomechanics, and promises to draw a large registration. Several special symposia have been organised. One of these was put together by Peter Walker on the Design of Joint Replacements and includes lectures from Erich Schneider and co-workers on Interface Motion in THR, and Pascal Christel on Materials for TJR. Franz Burny has organised another symposium on Monitoring of Orthopaedic Implants including several talks on telemetrised implants. If anybody wishes to receive further information, contact: Dr Geert W Schmid-Schonbein, Secretary General, The First World Congress of Biomechanics, AMES - Bioengineering R-012, University of California, San Diego, La Jolla, CA 92093, USA. Phone (619) 534-4272, FAX: (619) 534-5722.

NEWS FROM OTHER SOCIETIES

It seems that not a month goes by without another newsletter arriving in the mail. Here are some extracts:

ES Biomaterials:

At the Heidelberg Conference in September 1989, there were 371 participants, with strong representation from the USA and Japan. A new official journal for the ESB, previously Journal of Biomedical Materials Research, was decided upon.

The new European journal will be entitled Materials in Medicine. It will have two editors, Pr W Bonfield and the editor nominated by the ESB, Pr D F Williams. MIM will be distributed together with the Journal of Materials Science; it will be available separately as well. This will insure since the first issue a large distribution of this new biomaterials publication both to the materials science and biomaterials communities. In 1990, 4 issues will be published, the first one on March. Papers can be submitted to each editor. The reviewing process will be managed by D F Williams as before. We strongly encourage the ESB members, as well as other scientists, to submit their paper for publication in MIM in order to give to this European journal a scientific status relevant with the quality of the best studies carried out in the field of Biomaterials.

Biological Engineering Society, UK

Sandra Downes and Iman Kanyab put together the first Newsletter for the Biomaterials Group of this Society.

Welcome to the first BES, Biomaterials Group Newsletter. Over recent years there has been increasing interest in the field of Biomaterials with many workers involved in new research. We hope to provide a means for people to communicate about their work and transfer ideas and expertise.

We hope that the arrival of the Newsletter will be much applauded but we obviously need your support in participating in the exchange of information. Therefore, we hope that everyone will respond to requests for contributions of articles and letters.

Orthopaedic Research Society, USA.

Dr Jorge Galante received the prestigious Steindler Award at the New Orleans Meeting of the ORS. The Steindler Award named for Arthur Steindler, orthopaedic surgeon, scientist and teacher, is awarded every other year to recognize senior scientists, clinicians and educators who throughout their professional lifetime, have made significant nationally and internationally recognized contributions to the understanding of the musculoskeletal system and musculoskeletal diseases and injuries.

Dr Galante's presentation 'Experimental Studies on Bone Remodelling in Total Hip Replacements' reviewed his work on the hip, testing the hypothesis that bone remodelling changes in cementless stems were affected by the nature of the interface and the stiffness of the stem. Results of extensive investigations indicated that the extent of porous coating and stem stiffness were the two major variables influencing bone remodelling changes in a canine total hip model.

Four investigators were recognized for their distinguished contributions to orthopaedic research at the Kappa Delta awards presentation. February 8, 1990. The young investigator award was presented to Steven Goldstein, PhD and his mentor Larry A Matthews, MD for their work on the elastic mechanical properties of trabecular bone and the variability of these properties throughout the human skeleton. Their work, performed at the University of Michigan, Ann Arbor, focuses on the mechanical, morphologic, architectural, and remodelling properties of trabecular bone, and the relationships between structure and function which can be derived from these properties.

European Orthopaedic Research Society.

During a symposium held in Munich on November, 29-30, 1985, a group of orthopaedic surgeons and scientists from the Netherlands, Sweden and Germany started a discussion about the future of orthopaedic research in Europe. They decided to investigate the situation of a research community in Europe. After several interim meetings, a decision was made to form the new society in 1987. In 1989

the Society was officially registered with Rik Huiskes as the first President. Orthopaedic research in Europe was described by Rik Huiskes from the University of Nijmegen as having no clearly defined image, demonstrating no common philosophy, providing little interaction, practicing little collaboration, providing no international forum, being inadequately funded, conducting no peer review and making available little information. The goals of a research community in Europe were to be: international coordination, exchange of information, collaboration and education.

A LINK WITH THE USA

As you probably know, the USA Orthopaedic Research Society has wide ranging interests and an active membership of over 1000. To help keep this society informed about events in Europe, George Bergmann was elected to be a member of the Education and Special Programme Committee. If anybody wishes to publicise anything in this area to our USA colleagues, write to George at: Oskar-Helene-Heim, Orthopädische Klinik und Poliklinik der Freien Universität Berlin, 1000 Berlin 33, Clayallee 229.

A NEW JOURNAL

The Journal of Electromyography and Kinesiology was recently founded by Carlo J De Luca, of the Neuromuscular Research Center at Boston University. The contents will include surface and needle electromyography, functional electrical stimulation, muscle fatigue, rehabilitation engineering, kinematic devices, testing technique and human performance. This journal may be of some interest to many of our members.

AN ONGOING OFFER

This Newsletter is not just for the committee to make their reports. It is available for all of us to present information and views of interest to ES Biomechanics members. Whether you want to advertise a conference or workshop, make a brief conference report, have job opportunities, or express your views in a Readers letter, the Newsletter is a splendid way to bring it all to the attention of a lot of dedicated readers. Send contributions to ESB Newsletter Editor, Professor Peter S Walker, Dept. of Biomedical Engineering, Institute of Orthopaedics, RNOH, Brockley Hill, Stanmore, Middlesex HA7 4LP, ENGLAND