



NEWSLETTER



Spring 1992

EUROPEAN SOCIETY OF BIOMECHANICS

Letter from the President

As I write this, the cold and wet weather in England hardly gives the impression that this is officially spring and that summer is fast approaching. Somehow it seems that our meeting in Rome is a long time in the future and yet it is only a few weeks away. There is not much time remaining to complete our work and get to our computer screens to prepare those startling color pictures. Rome is a center of activity as Aurelio Cappozzo and his associates put together the program, selected from a record number of submissions, and attended to the myriad of local details. The program will include a number of Guest lectures, including a Presidential Guest Lecture from Van C Mow of Columbia University in New York. Other distinguished visitors from North America will include Richard Brand, Carlo De Luca, Larry Katz, Bob Norman, Savio Woo, and the Instigator of the World Biomechanics organisations, Y C Fung. We welcome many other colleagues from around the world, including an expanding number from Eastern European countries.

This increasing communication between researchers from around the world is both symptomatic and causative of the rapid progress which is being made in biomechanics at this time. This is highlighted by an event which is to take place in Strathclyde, Glasgow, UK, in September this year, to honor the retirement of Professor John Paul. More than thirty years ago, John and his colleagues carried out fundamental studies to measure the forces and motions across joints. This work has been unsurpassed

to this day, and is only now being rivalled by the advent of telemetry, applied to artificial joint components. Methods for the measurement of motion have become more sophisticated, but only recently have methods been used where direct bone motion can be measured, by attaching pins into bones (a rebirth of the University of California methods in the 1940's) and by imaging using ultrasonics. Perhaps a major stimulus for this upsurge has been the combination of electronics, imaging technology, and low cost but high powered computers, and if this is the case, we can expect even further striking advances in coming years.

However, while this fundamental work is increasing in sophistication, this gives us a greater opportunity for influencing the applications of such knowledge. In a recent address to the American Society of Biomaterials, Myron Spector made the point that the improvements to medical devices and treatments did not seem to parallel the amount of research activity. The reasons for this are complex, but it seems that more attention is needed to forge stronger working relations between those who carry out research and those who are involved with design and manufacture. The funding of research by the European Commission does in fact encourage such relations, and our Society will seek to be more involved with the various funding sources and keep members fully informed. The EEC will be represented at the Rome meeting itself. Another issue under consideration is to strengthen the relations with industry

directly, and again, discussions will be held in Rome on that subject.

At the Rome meeting, I shall unfortunately be unable to attend the welcoming reception, but my role will be filled by our Vice-President, Ivan Hvid. We expect an excellent meeting, with a high standard of papers, posters and awards. There are several

important Society issues to deal with in the General Assembly, including changes to our Council, which is described in a separate section in this Newsletter. I look forward to seeing everybody in Rome!

30th April 1992

Peter S Walker

8th Meeting of the ESB in Rome

The Rome meeting is close at hand and we all look forward not only to the scientific sessions, but also to meeting a lot of colleagues and friends for brainstorming about new ideas, arranging cooperation with others and exchanging the type of information which you will never find published in journals. From the previous meetings I know that this 'fall-out' has always been an important motivation to attend. But the main focus is certainly the presentation and discussion of papers.

Aurelio Cappozzo has done a wonderful job in organizing the meeting as you all know from reading the programme. He received almost 400 paper submissions and selected about 300 of them for oral and poster presentations. Those who have attended the previous meetings know that the interest for the posters has always been great. Many people even think they are a better way of presenting results, since detailed discussion of special problems and aspects are easier than during the limited time available after oral presentations. The decision between oral and poster presentations was therefore not dependent on the quality of the contribution, but on the preference of the authors and on the form which seemed to be most appropriate for the material presented.

The four instructional courses are aimed at those interested in expanding their knowledge in current fields of research. In the past these instructional courses have been a very efficient means of collecting information. So if you want to stay current and have an up to date understanding of more than just your

own specialized subdiscipline - these instructional courses are just right for you! The lecturers are leading experts in their fields and the topics are especially informative for those of us who are normally involved in the subdiscipline of *orthopaedic biomechanics*.

I myself look forward with great anticipations to Antonio Ascenzi's opening lecture on the biomechanics of Galileo Galilei. Who else but Prof. Ascenzi could give us a better view on the roots of our discipline? Looking back every now and then is urgently needed to broaden the mind, develop an overview on long term developments and rummage in the treasures of long forgotten but still pertinent ideas. Another opportunity to do so will be provided by the film about the pioneers of scientific cinematography on June 22.

The four invited lecturers will certainly not stick to the results of their own research work but will give an overview of the newest results and concepts of bone architecture (G. Marotti), artificial joints (P.S. Walker), gait analysis (J.P. Paul) and cartilage (V.C. Mow). John Paul is one of the pioneers in modern biomechanics and has had a major influence on the recent developments in gait analysis. He will retire this year and his talk will be an excellent possibility not only to profit from his knowledge but also to thank him for being in the council of our society for many years. We all hope that he will stay active in the society for a long time to come!

Most topics will be introduced by talks from keynote speakers. This is a new structure for

the sessions of our meetings and will certainly help to put the specialized talks that follow into a broader context. We hope that this will further enhance the content of these sessions.

Every two years three awards are given during the meeting. The ESB Research Award is for the best original manuscript submitted for this contest. The paper chosen will be published in the Journal of Biomechanics. The Clinical Biomechanics Award will be given to the authors with the best oral presentation related to clinical applications, and can be published in Clinical Biomechanics. I think that the purpose of our society is not only to support *basic* research, but also to attract and keep more clinicians

involved in our meetings. The Clinical Biomechanics Award will help us do this. The Poster Award is intended as an additional incentive to produce high quality contributions and to honour those who have put much more work into their contributions than the oral presentators.

A very busy meeting is awaiting all of you in Rome. All sessions will certainly be so interesting that you will hardly find much time to enjoy the beauty of Rome. Having been in this city many times already, I sincerely hope that you take *at least* one or two additional days to enjoy the pleasures of this very old yet very young city.

Georg Bergmann

Changes to the ESB Council

I would like to provide some important information about changes which are due to take place in our Council. These changes will be dealt with at the General Assembly to be held in Rome in June. The relevant articles dealing with the Council are as follows:

Statutes. Article VII. 'The Council shall comprise at least seven members and not more than ten, from at least three European countries. From amongst themselves, they shall appoint a President, Secretary, and Treasurer, and other such officers as may be deemed necessary. The Council Members shall hold office for a term of four years and are eligible for re-election'.

By - Laws, Article IV. Section 2. 'The maximal consecutive term in office shall be eight years for all Council Members'.

By-Law, Article IV. 'The Members of the Council shall be elected for four years by the affirmative vote of the majority of the attending Active Members at a regular or special meeting of the Members. The Candidates can be proposed by the Council and by the Members. Propositions from the Members are to be submitted to the Secretary at least three weeks before the General Assembly where the vote is to take place'.

By-Laws, Article IV. 'The Council Members are eligible for re-election after a 4-year term. Maximal terms in office can be suspended by the affirmative vote of a majority of the attending Active Members at a regular or special meeting of the Members'.

At present, we have the maximum number of ten members. Lutz Claes has already served eight years and will stand down, leaving one clear vacancy. Lutz has filled the important role of our sponsorship of Conferences & Seminars not directly organised by the ESB, Maurice Hinsenkamp (Treasurer), Leif Ryd (Membership Secretary), Alain Meunier, Peter Niederer, and Peter Walker (President) have all served four years, and all except Maurice wish to stand for re-election to the Council. Maurice has to resign from the Council due to new and time consuming commitments demanded by a new position in his clinic. All ESB Members are entitled to submit new names for Council Members, to fill the five vacancies. The names and details must be submitted to our Secretary, Erich Schneider, three weeks before the General Assembly (or immediately after receiving this Newsletter if time is short). Erich's address is Arbeitsbereich Biomechanik,

ESB-meeting 1996

Who is going to organize the meeting of our society in 1996? The society decided not to organize a separate meeting in 1992, but instead to cooperate in the organization of the World Congress of Biomechanics to be held in 1994 in Amsterdam with our own special sessions and symposia, scientific prizes and a general assembly of the members. After the beautiful job Aurelio Cappozzo did in Rome with preparing the upcoming meeting and after the meeting in Amsterdam it will be a demanding task to organize the ESB meeting

in 1996. Although two groups applied for this two years ago, additional proposals from others are welcome. You should have a clear concept of the financing including possible national fundings and commercial sponsorships, the meeting place itself and of the group you will need to help you in the organization and selection of submitted papers. Probably 300 to 400 attendees can be expected. Decisions about the 1996 meeting have to be made by all members during the general assembly in Rome.

Retrospective Views

38th Ann. Meeting Orthopaedic Research Society, Washington, Febr. 1992

Without any doubt the winter weather in Washington (as compared for example to its San Francisco or New - Orleans equivalent) was a good guarantee of the ORS participants interest in orthopaedic research (especially during the Winter Olympic Games!). Of course this is without taking into account the many attractions offered by the federal capital (including the renowned Smithsonian Institute, the impressive Air & Space Museum or the picturesque atmosphere of Georgetown...). With respect to orthopaedic research, all the events took place at the Ramada Techworld Inn right across the Convention Center housing the 59 th. annual meeting of the American Academy of Orthopaedic Surgeons.

Keeping with tradition, the ORS started Monday morning and ended Thursday with oral presentations divided into 4 parallel sessions and two poster sessions. Among the 700 communications published in the two volume proceedings, 296 were oral presentations and 404 were posters (only 5 years ago, there were only half that number of posters!). A brief

count of the oral presentations tells us that about 20% of the lectures came from outside the U.S. .Canada and the UK accounted for about 5% each , Japan 3%, Switzerland and Sweden about 1.5% and many other countries provided only one or two presentations (less than 1%). A cheese and wine party took place during the first poster session on monday afternoon, making it difficult (as usual) to shake hands while holding a glass of wine, a piece of cheese and the two volumes of proceedings! The second poster session was not held as usual during a Continantel Breakfast on Wednesday morning, but during a "Hosted Lunch" (this day we learned that "Hosted Lunch" is a synonym of picnic).

The main areas of orthopaedic research including biology, biochemistry, biomechanics, biomaterial and clinical research gave a good overview of orthopaedic research at large. In the field of biomechanics, models are becoming more elaborate, and terms like 'nonlinear' are now standard. Beside the usual sessions on topics like Total Replacements, Extremities,

Bone, Soft Tissues or Gait, newcomers like Interface Mechanics, related to implant fixation in the human body, also gained new interest among the research community with a complete session devoted to it. An interdisciplinary approach with a proper balance between biological/chemical, mechanical and clinical work could be recognized in many papers. For the early - morning people (during the ORS days everyone should be), outstanding workshops and symposia were held between 7 and 8.30 AM on subjects like Bone Remodelling, Wear Particles, Upper Extremities or Nerve Injury and Repair.

The quality and in particular the quantity was quite impressive. The first day of the ORS gives the impression of an enormous business with its 2000 participants (to compare with the 300 participants of last ESB meeting in Aarhus, DK). However after a few coffee breaks and 'cheese and wine' parties, one gets the feeling of being a member of a big family at its annual reunion. That's the magic of ORS!

Jean Heegaard

Harrie Weinans

First Europ. Orthopaedic Research Society Conference, Paris, Nov. 1991

The first conference of the European Orthopaedic Research Society (EORS) was held in Paris during the 11th and 12th of November 1991 in conjunction with the 66th meeting of the French Society of Orthopaedic Surgeons. The importance of such an event for the European community involved with orthopaedic research was stressed both by the location of the conference (the large Palais du Congrès) and by the number of participants to this première (around 150).

Presentations were either oral or poster - both of excellent quality. At least 115 authors succeeded in writing their abstract within a fortnight (that is the elapsed time between the "first-final" call for papers with enclosed abstract forms and the deadline for submitting these abstracts). Sixty - four oral presentations were distributed among 10 sessions covering topics like Spine, Joint Physiology, Total Hip Replacement, Bone, Musculo-Skeletal Physiology, Biomaterials, Fracture Healing and Fixation, Joint Tissues, Knee Ligaments and Menisci. These sessions were held on two parallel tracks the first day and on a single track the next morning while 51 posters (covering the above subjects) were displayed in the adjacent room. Writing about the 1991 American ORS in the November 1991 ESB Newsletter, Necip Berme noted that the trends were shifting towards biochemistry. The 1st EORS conference clearly showed a majority of communications oriented toward biomechanics, with only one session (joint tissues) devoted to subjects like growth factors or proteoglycans.

For its first meeting, the Organizing Committee did an overall excellent job. Everything ran smoothly even if we missed a real poster session during an ORS-like "cheese and wine" party (especially being in France!). At the general assembly on Monday morning the European Orthopaedic Research Society was founded. Orthopaedic surgeons, physicians, engineers and scientists decided to work together on a challenging job. We hope that the executive council of the EORS will be successful in quickly cooperating with the various national orthopaedic societies and soon gain a leading role in European orthopaedic research. Finally, speaking about national societies, it is worth saying a word about national-level participation at the conference: this first meeting undoubtedly was a Germano-German business, as they presented half of the communications. Far behind came Sweden and France each with about 10% of the communications and even further behind, the "rest of us" that is The Netherlands (7%), United Kingdom (4%), Finland, Norway and Switzerland (3,5%) and the remaining countries with less than 2% of the papers! If everybody follows the German example then for sure the new-born European Orthopaedic Research Society will grow the way its elder American sister did.

So.....long life to the EORS!

Jean Heegaard

Harrie Weinans

Workshop on Measuring the Mechanical and Physical Properties of Cancellous Bone, York, December 1991

Suggested by the Aarhus Group, this workshop was organized by John Currey and Richard Hodgkinson and held in the Biology Department at the University of York. John reports that 14 people attended the workshop and that the discussion was informal, lively and

interesting. He also mentions the beer, which was acceptable and he offers a 4 page report about the meeting to those contacting him: John Currey, Dept. of Biology, Univ. of York, York YO1 5DD, England, Fax: 0904 - 432860

Positions available in Biomedical Engineering, Orthopaedic Biomechanics

Two positions are available in the Department of Biomedical Engineering, Inst. of Orthopaedics, University College London, which is situated at the Royal National Orthopaedic Hospital Trust, Stanmore, north London, UK. The Department is concerned with research, design, manufacture and clinical evaluation of artificial joints. The position of Lecturer requires sound experience of research in the area of orthopaedic biomechanics, with a record of published articles in refereed journals, expertise in preparation of grant proposals, and experience in the formulation and supervision of projects. The

successful candidate will be expected to carry significant responsibility in the Department. The second position of Research Fellow is funded for one year in the area of computer modelling of the knee and analysis of total knee replacement. Salary and conditions are in accordance with the University of London rates. Accommodation is available on the Hospital site.

Please send resume or request further details: Ms. J. Smart, Secretary, Biomedical Engineering. Phone: - 81 - 9540956, Fax: -81 - 4206497

Fellowship

The Inst. de recherche sur les Maladies du Squelette offers a one year Research Training Fellowship for M.D.'s or Ph.D.'s with experience in microscopy or cell cultures. Location: Berck/Mer (Pas-de-Calais). Offered

are lodging, food and 50,000 FF max. Apply before July 1st: Dr. P. Hardouin, Inst. Res. Mal. du Squelette, Inst. Calot, 62608 Berck Sur Mer CEDEX, France.

European Society of Biomechanics

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Main research areas: - Mechanical properties of Skeleton, Osteoporosis
- Muscle mechanics + Gait Analysis
- Basic research for a functional sport shoe construction
- Functional Electro Stimulation

Available research methods:
- force platforms, - goniometers, - accelerometers, - film analysis, - 3-D Vicon,
- treadmill with force measurements

Possible support and cooperation for other researchers:
- bone & muscle, - mechanics in Sports-Biomechanics, - Gait Analysis

Some publications:

- Stüssi E., Fähr D.: Assessment of bone mineral content by in vivo... Med. & Biol. Eng. & Comput., 26, 349 - 354, 1988
- Stüssi E., Stacoff A., Segesser B.: Biomechanische Überlegungen zur Belastung der Sprunggelenke. Orthopäde, 21, 88 - 95, 1992
- Stüssi E., Denoth J.: Sport und Physik. Physik in unserer Zeit, 20, 1 - 7, 1989
- Segesser B., Stüssi E., Stacoff A., et al.: Torsion - ein neues Konzept im Sportschuhbau. Sportverletzung, Sportschaden, 3, 167 - 182, 1989

Working in the lab: 19 permanently: 8 on funds: 5 students: 5 others: 1

Funding (percent) univ: * — governm.: *30 % grants: 60 % others: 10 %

Educational programs, student grants: For diploma work: 1 - 3 students/year

* The Swiss Federal Institute of Technology is run by the government

Upcoming events

May 1 - 13, Int. Symp. on Surface Properties of Biomaterials, Manchester, UK. Organiser: R. West, Fax: 44 - 61 - 237 1008

May 5-7, Int. Symposium on Computer Methods in Biomechanics & Biomedical Engineering, Swansea, U.K. Mr. J. Middleton, Dep. of Civil Engineering, Univ. College of Swansea, Swansea SA2 8PP, U.K.

May 7-8, Int. Biomechanics Seminar, Göteborg/Sweden. Centre for Biomechanics, Chalmers Univ. of Technology, S-41296 Göteborg/Sweden, Fax: - 222 - 743834

May 22-23, NATO Advanced Research Workshop "Advances in the Biomechanics of the Hand and Wrist", Brussels/Belgium. Secretariat: F. Schuind, Dept. of Orthopedics, Erasme Univ. Hospital, Route de Lennik 808, B-1070 Brussels, Fax: 32 - 2 - 5203556

May 24 - 27, 19th Symp. ESOA Joint Destruction in Arthritis and Osteoarthritis, Noordwijkerhout, The Netherlands, Secret.: P. M. van der Kraan, Nijmegen, The Netherlands, Fax: 31 - 80 - 541433

June 2 - 4, Inter-Meeting of the Sirot, Brussels, Belgium. Plenary sessions on implant technology and musculo-skeletal oncology, paper and poster sessions among others about fracture healing, bioengineering and biomaterials. Local

chairman: Prof. A. Vincent, Univ. Catholique de Louvain, 1200 Bruxelles, Fax: 32 - 2 - 764-5371.

June 8-13, European Intensive Course on Image Techniques in Biomaterials, Portugal. Contact: Prof. M.A. Barbosa, Dept. of Metallurgy, Faculty of Engineering, University of Porto, R. dos Bragas, 4099 Porto Codex, Portugal, Fax: 351 - 2 - 319280

June 15 - 19, X Int. Symp. of Biomechanics in Sports, Milan, Italy. Organized by the Int. Soc. of Biomechanics. Secret.: Centro die Bioingegneria, Fondazione Pro Juventute IRCCS, Politecnico di Milano, Via Capecelatro 66, I - 20148 Milano, Italy, Fax: 39 - 2 - 26861144

June 21-24, 8th Meeting European Society of Biomechanics, Rome/ITALY. Congress Secretariat: ESB92, Istituto di Fisiologia Umana, Università "La Sapienza" Piazzale Aldo Moro, 5, I-00815 Rome, Italy

June 25 - 29, Summer Bioengineering Conf., ASME/AICHE/ASCE, Breckenridge, Colorado, USA, contact M. H. Friedman, Ohio State Univ., Fax: 614 - 292 - 7301

June 27 - 30, Int. Symp. on the Three-Dimensional Scoliotic Deformities combined with the VIIIth Int. Symp. on Spinal Deformity and Surface Topography, Montreal, Canada. Contact J.

Dansereau, Biomed. Engng. Inst., Ecole Polytechnique, PO Box 6079, Station "A", Montreal, Quebec, Canada H3C 3A7, Fax: 514 - 340 - 4611

June 28 - July 2, 9th Int. Congr. of ISEK (Int. Soc. of Electrophysiological Kinesiology), Florence, Italy. Topics among others: Motion analysis and control, ergonomics, posture and movement. Secret.: Fondaz. Pro Juventute Don Carlo Gnocchi, Via Gozzadini, 7 - 20148 Milano, Italy, Fax: 39 - 2 - 26861144

June ???, Int. Conf. on Modelling Problems in Bionics BIOMOD 92, St. Petersburg, Russia, Infos: S.M. Vladimirovitch, Tel: 812 - 535 - 18 - 12

July 12 - 17, XIII th M. Federation European Connective Tissue Societies, Davos-Platz, Switzerland. Secret.: M. E. Müller Inst. Biomech., Univ. Bern, PO Box 30, CH - 3010 Bern, Switzerland

July 14 - 15. Course on Biomechanics of Joints and Joint Replacements, Leeds, England. Aim of the meeting: Engineering fundamentals and their application in bio-mechanics, Details from: Mrs. C. Would, Dept. of Contin. Prof. Education, Contin. Educ. Building, Leeds, LS2 9NG, , Fax.: - 532 - 333240

June 15 - 19, X Int. Symp. of Biomechanics in Sports, Milano, Italy. Secret.: Centro di Bioingegneria, Fondaz. Pro Juventute IRCCS, Politecnico di Milano, Via Capecelatro 66, I - 20148 Milano, Italy, Fax: 39 - 2 - 26861144

August 31 - September 5, XII Int. Symp. on Biotelemetry, Ancona/Italy. Dr. ing. Sandro Fioretti, Secretary General XII ISOB-1992, Dipartimento di Elettronica ed Automatica, via Breccia Bianche, I-60131 Ancona/Italy, Fax: 39 - 71 - 898246

September 4-5, Int. Conf. on Experimental Mechanics "Technology Transfer between High Tech Engineering and Biomechanics", Limerick/Ireland. The Conference Secretariat (BSSM '92), Dept. of Mechanical & Production Engineering, Uni. of Limerick, Plassey Technological Park, Limerick, Ireland, Fax: 353 - 61 - 330316

September 17 - 18, The Science and Technology of Orthopaedic Implants, Meeting to mark the retiral of John Paul (President of the ISB for many years !!!), Chairman: J. C. Barbenel, Univ. of Strathclyde, Wolfson Centre, 106 Rottenrow, Glasgow G4 0NW, Scotland, Fax: - 44 - 41 - 5526098

September 24 - 27, 4th Vienna Int. Workshop on Functional Electrostimulation, Vienna, Austria, Organization: W. Mayr, Fax.: -43 -1 - 40400-3988

September 27 - 30. 2nd Conf. Europ. Orthop. Res. Soc., Varese, Italy. This meeting is organized in conjunction with the Società Piemontese Ligure Lombarda di Orthop. & Traumat. and include a symposium on bone cement. Organizing Secret.:

ASK studio, via Ippodroma, 21100 Varese, Fax.: - 332 - 232409

September 29 - October 4, 6th Inter. Congress on Bone Morphometry, Lexington, KY. Contact: H.H. Malluche, M.D., MN 572, University of Kentucky Medical Center, Lexington, KY - 40536 - 0084, U S A.

Sept. 30 - Oct. 2. Biomechanics of Man, Smilovice, Czechoslovakia. Topics: locomotion, sports, rehabilitation, memory materials and others. Organized by the Inst. of Theoret. & Applied Mechanics, Academy of Science, near to Prague. Secret.: Ing. Jitka Jitova, ITAM CAS, Vysehradská 49, 128 49 Prague 2, Czechoslovakia, Fax.: 42 - 2 - 295903

October 1 - 3. 5th Ann. Int. Sympos. on Custom Prosthesis, Windsor, England. Focus on basic research, design, manufacturing, materials, pre-operative planning, modular systems and clinicals results. Keynote lectures on Imaging, telemetry data, coating and robot assisted surgery. Organizing Secr.: J. Smart, Inst. Orthopaedics, Dept. Biomed. Engng., Inst. Orthop., RNOH Trust, Brockley Hill, Stynmore, Middx, HA7 4LB, England, Fax.: - 81 - 420 6497

Oct. 29 - Nov. 1, 14th Int. Conf. of the IEEE Engineering in Medicine and Biology, Paris. Contact S. Laxminarayan, Newark, USA, Fax: 201 - 504 - 7668 or J. L. Coatrieux, Rennes, France, Fax: - 33 - 99286917

1993

April 25-29, Europ. Soc. for Engineering and Medicine, Stuttgart/Germany. Contact: Prof. Dr. Uwe Faust, Institut für Biomedizinische Technik, Seidenstr. 36, D-7000 Stuttgart 1, Fax: 49 - 711-1212371

July 1 - 4, 2nd. Int. Symposium on 3D Analysis of Human Movement, Sattelite even to the XIV ISB Congress, Inform.: P. Allard, Centre de Rech. Pédiatrique, Hosp. Sainte-Justine, 3175, Cote St.-Catherine, Montreal (Quebec) H3T 1C5, Canada, Fax: -514 345 4801

August 29 - Sept. 3, SICOT, Seoul, Korea. Secret.: SICOT, Seoul Nat. Univ. Hosp., 28 Yongon-dong, Chongno-Ku, Seoul 110-744, Korea, Fax: 82 - 2 - 766 - 0339

To be held in 1993, Workshop on Forensic Biomechanics Dealing with Rapid and High Dynamic Loading of the Human Body. Contact: Prof. Peter Niederer, Inst. of Biomedical Engineering, Swiss Federal Institute of Technology, Moussonstrasse 18, CH-8044 Zurich, Fax No. +41-1-261-5187, Phone No. 41-1-256-4568

1994

Second World Congress on Biomechanics, Amsterdam, The Netherlands. Contact: M.Y. Jaffrin, Dept. de Genie Biologique Univ. de Technol. de Compiègne, B.P. 649, F-60206 Compiègne Cedex, France