European Society of Biomechanics
Newsletter
Spring 2007

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OF CABBAGES AND KINGS

Marco Viceconti - President of the ESB

This rime comes from Lewis Carroll's masterpiece, and it always represented to me the perfect definition of confusion. As I am supposed to report you about quite disparate topics, I thought it would be adequate as a title (I know, the older I get, the weirder I become).

In this issue...

Seems like yesterday when I was elected President in Munich, and almost a year passed by; but I can easily come to a realisation of the time by looking at the list of the things, small and big, that this council has done meanwhile.

The first newsletter of ESB, dated February 1979 (and now available on line), was opened by John Scales with this word: "your Board feels it is time that you are brought up to date with the general affairs of the society". I am here to do the same.

After the approval of the Corporate Membership at the last General Assembly, Manuel Garcia worked hard to give to this status a concrete implementation. The fee model and the membership policy was defined in detail, and announced to some companies we hoped might be interested. Our first Corporate Member is Materialise, a Belgium company well known for its Mimics software so popular in many of our labs. Manu is now working with Stephen Ferguson to define a benefits exchange mechanism that will hopefully promote our new membership type among the companies that plan to expose at our next conference, ESB2008. If you are an ESB member who works in a company, please have the management to take into consideration this form of collective membership, aimed to support our society.

http://www.esbiomech.org/Section/member-types
http://www.esbiomech.org/corporate.pdf

Peter Zioupos, as part of the Education committee work, is interacting with the local committee of the Summer Workshop that will be organised by our Irish colleagues at Trinity College in late August this year. The registration for the Summer Workshop is open, so if you are interested in mechanobiology, why not spend a nice week in Dublin, one of the most enjoyable capitals in Europe?
http://www.tcd.ie/bioengineering/esb2007/registration/index.php

Georg Duda, who does not get bored with his own job, nevertheless found the time to track down another major event: the aforementioned ESB2008 that a group of Swiss colleagues led by Stephen Ferguson are organising. We had our last council meeting in Lucerne, where we visited the conference facilities. They are absolutely gorgeous, and I got a very good impression from the work the local organising committee is doing. Biomechanics is growing, European Biomechanics is growing, the ESB role in European Biomechanics is growing, so I suspect ESB2008 will challenge the truly successful Den Bosch ESB2004.
http://www.esb2008.org/

Hans Van Oosterwyck is working hard to increase the information profile of the society; one reason to be a member is to stay updated on what is important in our field, and Hans is trying to improve this service significantly. If you have any event, announcement, or other news item to share with the rest of the membership, please send it to the address here below. Hans will cover the news, depending on various factors, using the web site, the direct email post to the membership, and the bi-annual Newsletter.
mailto:news@esbiomech.org

The new Chairperson of the ESB Student Committee, Sabine Bensamoun, is giving good continuity to the great work done by her predecessor, Damien Lacroix. Sabine, with the support of some student volunteers, is keeping up our student corner with some interesting initiatives, and launched the new student forum.
http://www.esbiomech.org/Section/student-corner
http://www.esbiomech.org/Forums/

One additional word on the ESB Forums. We created various forums, the most recent being the one dedicated to the students, but they are not yet used as much as we expected. Especially for the younger members, we think that being part of a living community, although virtual, is very important for the development of your career. We invite you to share your thesis description with the others on the appropriate forum, discuss about research jobs in the job opportunities section, and discuss about your general experience or about your specific research problems on the student forum.

Keita Ito, our past president, fully resolved the issue of the Society's legal status; we submitted recently the last batch of documents, and are now just waiting the bureaucracy to do its job. Well done, Keita, one problem less for our society. Next thing to tackle will be clearing up our statutes and By-Laws. The draft revision of the statute is now open for comments from the membership, and the by-laws revision should follow soon.

Damien Lacroix is now the Secretary General. This position is hard to describe, essentially the SG does everything else left over by the chairperson committees, which, believe me for direct experience, is a lot. As far as I know the membership application management process never worked so smoothly, and we are slowly building a digital archive of all relevant documents of the society (the last is the newsletter archive). I am finding it amusing that this council, which was seen by some as a point of discontinuity with the tradition of the society, is actually the one that is doing more to preserve the memory and appreciation for our founding fathers. Hannah Arendt wrote: "The most radical revolutionary will become a conservative the day after the revolution"; how true.

After eight years of service, Monique Donkerwolcke handed over the duty of Treasurer to Jimmy Cummingham. This is probably the most complex job to hand over among those in the council, and Jimmy is still working on it. Due to this, you might experience some small glitches in the financial interactions; we apologise in advance for this.

Last but not least, our Vice President, Ralph Müller, besides contributing to the revision of the statute and of the by-laws was very busy with the revision of our awards regulations. Let me take this opportunity to recommend to all of you to apply for all ESB awards and in particular for the prestigious Perren Award. More information can be found at:
http://www.esbiomech.org/Section/esb-awards
http://www.esbiomech.org/Html/16

Overall the society daily operations are running smooth, the membership is steadily increasing, the financial situation is good; thus, you could ask, what have *you* done, in this period? Well, quite a few things, but probably the most important is *lobbying*. In the triple vest of ESB President, EAMBES council member and Coordinator of the STEP action, I spent most of 2006 lobbying for biomechanics research at all EU tables together with many other colleagues who shared this common goal. As a result of this collective effort, the European Commission and the European Parliament decided to allocate 76 Million Euro of public funding to support research in the so-called *Virtual Physiological Human*, with the objective of developing "Patient-specific computer models for personalised and predictive healthcare and ICT-based tools for modelling and simulation of human physiology and disease-related processes". The call for proposals will be out in May, and if you want to know more you can find more details here:
http://www.biomedtown.org/biomed_town/VPH/StepPublic/step-public/271839185044/

After many years in which bioengineering was the Cinderella of European research now we manage to have the attention of the stakeholders. It is up to us, European biomechanics researchers, to show them that the money spent in this type of research is well spent; if we succeed in this, we can probably count on another wave of funding in 2009, and many more resources emerging at the national level. But we need good consortia that prepare very good proposals, that if approved generate top-class research. We need to move from our mainstream topics, and look at multiscale interactions and complex multi-systemic behaviours: we need to go back to our engineering roots and think our research within the context of technology development; last but not least, we have to realise that this is *team science*. Although we shall occasionally compete each other for funding, in the long run what really matters is that the field develops as a whole. Because of this I recommend that you work around ideas that can have a transversal impact on the entire VPH research. Propose web services that everybody can use, databases that we all can access, or new algorithms that can be shared and re-used easily; this will increase the chances that your proposal gets funded, and that it will contribute to the development of the European VPH as a whole.

So as you can see we managed to keep ourselves quite busy. What about you, our dear members? I shall meet many of you in Dublin this summer, and many others at different occasions (remember these two events, endorsed by ESB: III International Congress on Computational Bioengineering (ICCB III) (September 17-19, 2007, Margarita Island, Venezuela) and 'Prediction and evaluation of total hip replacement performance' (June 22-23, 2007, Leuven, Belgium); I shall attend both of them, so see you there. Meanwhile, please write to me (President@esbiomech.org) directly about your opinions, your requests, your expectations for this collective effort we call European Society of Biomechanics.

With sympathy

Marco Viceconti

For those of you who are curious, here are the full strophe and the complete citation:

"The time has come," the Walrus said,
"To talk of many things:
Of shoes--and ships--and sealing-wax--
Of cabbages--and kings--
And why the sea is boiling hot--
And whether pigs have wings."

Lewis Carroll, *The Walrus and The Carpenter*

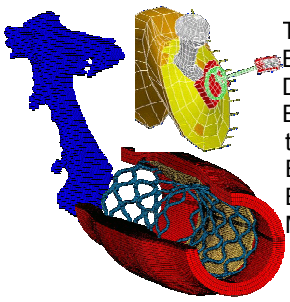
(from *Through the Looking-Glass and What Alice Found There*, 1872)

ESB WORKSHOP 2007
FINITE ELEMENT MODELLING IN BIOMECHANICS AND MECHANOBIOLOGY

August 26-28, 2007, Trinity College Dublin, Ireland

Website

http://www.tcd.ie/bioengineering/esb2007/



The Trinity Centre for Bioengineering, Trinity College Dublin, will host the 2007 European Society of Biomechanics thematic workshop on Finite Element Modelling in Biomechanics and Mechanobiology.

Scope and Scientific Programme

The workshop will be structured around three main application domains, each with two subtopics:

Application of FEM to tissues and implants

- Tissue mechanics (e.g. constitutive modelling of soft and hard tissues)
- Implants and medical devices

Advanced Applications

- High-Resolution FE
- Patient-Specific FE

Using FEM in Mechanobiology

- Bone Remodelling
- Tissue Differentiation

Invited Speakers

1. Prof. Cecil G. Armstrong, Queens University Belfast
2. Prof. Dr.-Ing. Gerhard A. Holzapfel, Royal Institute of Technology (KTH), Sweden
3. Prof.dr.ir. Rik Huiskes, Eindhoven University of Technology, Netherlands
4. Prof. Keita Ito, AO Research Institute, Switzerland
5. Prof. Christopher Jacobs, Stanford University, USA
6. Dr. Caitríona Lally, Dublin City University
7. Prof. Peter McHugh, National University of Ireland, Galway
8. Prof. Francesco Migliavacca, Politecnico di Milano, Italy
9. Dr. Sandra Shefelbine, Imperial College London, UK
10. Prof. Mark Taylor, University of Southampton, UK
11. Dr.ir. Bert Van Rietbergen, Eindhoven University of Technology, Netherlands
12. Dr. Marco Viceconti, Istituti Ortopedici Rizzoli, Italy

Format

The workshop aims to provide students and interested researchers with an introduction to the application of the finite element method to biomechanics. It will combine a mixture of *tutorial* and *state-of-the-art review lectures* by leading researchers in each application domain along with the opportunity for research students to present their work in free papers. Furthermore, it is intended that special informal mentoring sessions will be held after the free papers in which students can seek advice from the leading researchers in their field of study.

Submission & Registration Deadlines

- Abstract Submission: by 30th April 2007 (two pages; template available for download from website)
- Registration Form: by 31st July 2007 (Online registration available through the website)
- Payment of Registration fee: by 31st July 2007

Abstracts will be published in the Workshop Proceedings, which will be available in hard copy at the conference and to download from the website. Please submit your abstracts by email and/or any queries to brownsh@tcd.ie.

The following are sponsoring the Workshop :

MATERIALISE, FIRST ESB CORPORATE MEMBER

Jeroen Dille – Materialise

The main aim of the European Society of Biomechanics is to encourage, foster, promote and develop research, progress and information concerning biomechanics. During these first 30 years, the Society has focused on the contact with European scientists and researchers. In response to the increasing number of companies in the field of biomechanics and in order to fulfill their specific needs, the ESB approved a new Corporate Membership in the last General Assembly meeting (July/August 2006). This new category aims to create relationships between companies and top European researchers and to provide a key role in the technology transfer from research to the marketplace. Moreover, a Corporate Membership will provide additional benefits including participation in all activities of the ESB, displaying of the company's logo and web address in the ESB web site, contributions (not of a commercial nature) to the ESB Newsletter, etc. A detailed list of such benefits and additional information are available in our web page (http://www.esbiomech.org/Section/member-benefits). Materialise has recently become ESB's first Corporate Member. A description of the main activities of this leading European Company in the field of biomechanics, together with comments on their decision to join the ESB is included below. The ESB is working hard to promote this new type of membership, trying to increase the number of Corporate Members. In this sense, the ESB is offering a special package for the Corporate Fee in the current and next year's memberships. Those companies who participate as sponsors of the ESB Workshop being held in Dublin this year (http://www.tcd.ie/bioengineering/esb2007/), and apply for a 2007 Corporate Membership will receive a 50% discount in the Corporate Fee. The same discount will be offered to companies willing to apply for ESB Corporate in 2008 and interested in sponsoring the next 16th ESB Congress in Lucerne (Switzerland) (www.esb2008.org) – *Manu Garcia, Membership Committee.*

Materialise, world leader in rapid prototyping and 3D imaging technologies

Materialise was founded in 1990 bij Msc. MBA Wilfried Vancraen. Begun as a joint venture with the University of Leuven (Belgium), it was one of the first European rapid prototyping service bureaus. Since that time, the company has experienced an exponential growth. Materialise is more than just one of the world's leading rapid prototyping providers.

It has evolved over the years into three separate divisions and one separate company, Materialise Dental. Each of them focusing on several of the core competencies as they serve a particular market: ***Materialise Industrial Services*** operates as a full service bureau, offering complete prototyping, tooling and manufacturing solutions. ***Materialise Software*** develops industrial as well as medical software products and services. ***Materialise.MGX*** develops customized design products for consumers. ***Materialise Dental*** develops dental software products and services. Each division has its own focus, but their unique combination provides Materialise its strength. Together, they have spurred Materialise' growth into a leader in each of the industries they serve. Materialise has offices in more than 10 different countries throughout the world and employs over 400 people.

Mimics: a powerful, fast and intuitive tool for any 3D image-based project

In 1992, Materialise' software division released its first medical prototyping software ***Mimics***.

Mimics has become the standard for 3D image processing and editing based on scanner data. Mimics is a very powerful tool for the use in biomechanical and biomedical research. The software translates CT, MRI and Microscopy data into complete 3D models very easily and quickly for a variety of applications: from visualization over computer aided design (CAD), physical 3D medical modeling and virtual modeling for finite element analysis (FEA) or computational fluid dynamics (CFD), to virtual surgery simulation.

Materialise supports research

"We at Materialise are convinced that many promising research projects never get further than the planning stage, due to a lack of money. Because we find it our duty to try to make this world a healthier place, we started looking for a way to support these researchers. In 2005, Materialise launched the first edition of the Mimics Innovation Awards to do just that," says Wilfried Vancraen, CEO of Materialise.

Presentation of Mimics Innovation Award 2006

Researchers can submit their project in three different categories. The winner in each category receives a 5.000€ money prize and is invited to the Annual International Mimics User Group Meeting to present his research. Over the years, the Mimics Innovation Awards have become a prestigious prize in the field of 3D medical image processing. An independent, international jury, evaluates each paper thoroughly and selects the most innovative publications. Discover more information about the Mimics Innovation Awards on our website www.materialise.com.

Materialise participates in research

Materialise finds it important to participate in international research projects. Not only because they can contribute greatly with their knowledge and facilities, but also as an important means of keeping up to speed with the demands of the market and innovations in the field. Materialise is now involved in several international research projects in biomechanical field, such as Custom-Fit, Expertissues, Hippocrates, Alea Jacta Est, Detect and Custom IMD. Fortunately, the European Commission also supports biomechanical research financially, which makes it even more interesting to partake.

Corporate membership

Since ESB's primary goal is to encourage, foster, promote and develop research, progress and information concerning the science of Biomechanics, Materialise was compelled to become a corporate member. "This membership offers us the wonderful opportunity to get in touch with scientists and researchers in need of good medical software or medical RP models, and to stay in touch with those already using it. Also, it enables us to keep track of and participate in events and exhibitions related to biomechanics, as well as awards and their winners in this field of research.

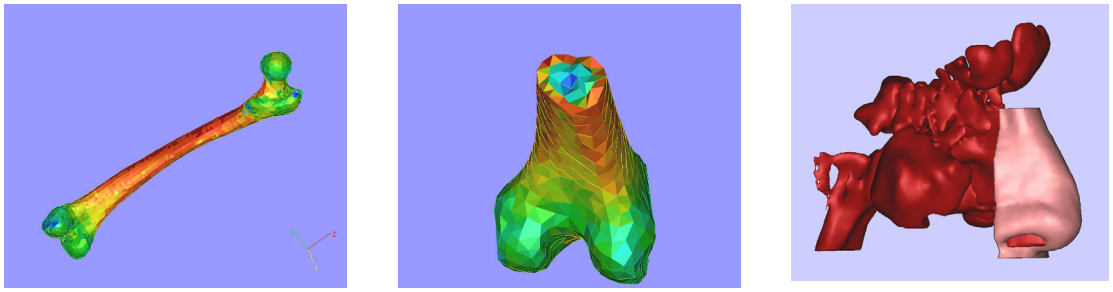
Mimics has a broad application domain and has proven to be a valuable tool in various cases of biomechanical research for engineers worldwide. Therefore, becoming a corporate member was ideal to reach the biomechanical engineering community, with its diverse research interests," states Jeroen Dille, Mimics Product Manager at Materialise.

Job Opportunities

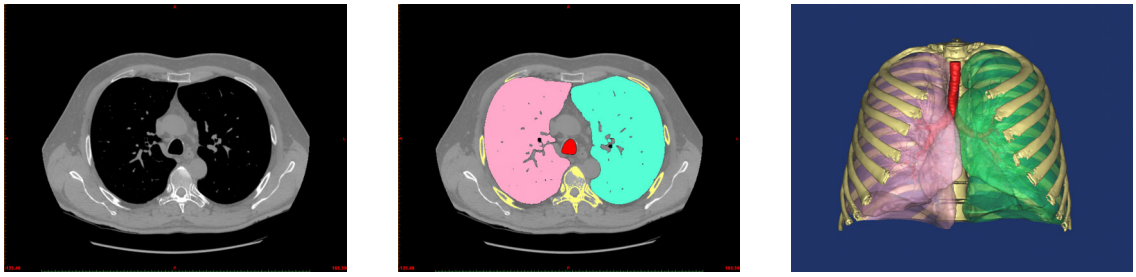
As Materialise is rapidly growing, we are constantly looking for ambitious and enthusiastic people to join our company. Would you like to be part of a passionate team, working together to innovate product development resulting in a better and healthier world? Discover the ***job opportunities at Materialise***: take a look at our website www.materialise.com.

About the author

Jeroen Dille (Jeroen.Dille@materialise.be) works at the Materialise headquarters in Leuven, Belgium as product manager since 2004 and is responsible for the Mimics software.



Anatomical 3D models prepared for FEA and CFD analyses with Mimics software



Prof. W. De Backer, Department of Pulmonology, University Hospital Antwerp, Belgium

BIOMECHANICS IN ITALY

Gabriele Dubini - Politecnico di Milano

We continue our tour through Europe and after having focused on biomechanics in Germany and Greece (see the March 2006 issue of the Newsletter) it is a pleasure to have prof. Gabriele Dubini from the Politecnico di Milano, as our guide for a quick journey through Italy! – *Hans Van Oosterwyck, Publication Committee.*

In Italy teaching Biomedical Engineering subjects within courses in Mechanical and Electronic Engineering dates back to the years 1968 and 1969. The doctorate course in Bioengineering started in 1983. Dedicated courses leading to a degree in Biomedical Engineering started only in the Nineties. At Politecnico di Milano, for example, the 3-year course ('Diploma Universitario') commenced in 1992 and the 5-year course in 1996. Since then Biomechanics subjects have been playing an increasingly important role in the Biomedical Engineering syllabus and have nearly equalled the initially predominant position played by electronic methods and techniques for medical applications.

At time of printing (April 2007) a total of 48 permanent staff (assistant, associate and full professors) are listed in the database of the Italian Ministry of University and Research under the chapter of 'Industrial Bioengineering', which includes both biomechanicists and biomaterialists. They are distributed over 17 Universities. Most of them are concentrated at Politecnico di Milano (19 permanent staff – of them 11 are at the Department of Structural Engineering, 7 at the Bioengineering Department and 1 at the Chemical Engineering Department), University of Padua (5 staff), University of Bologna (4 staff), Sant'Anna School of Advanced Studies of Pisa (4 staff) and Politecnico di Torino (3 staff). The above figures must be complemented with the huge numbers of temporary staff (PhD students and temporary research assistants) working in the Italian Universities in the field of Biomechanics as well as with a number of biomechanicists working in private and public research laboratories (e.g. the Italian National Institute of Health ('Istituto Superiore di Sanità') in Rome, the Rizzoli Orthopaedic Institute in Bologna, the Mario Negri Institute for Pharmacological Research – Bergamo branch).

In the Italian Universities teaching and research activities in Biomechanics are usually based in different Departments, e.g. in three Departments at Politecnico di Milano, at the Dept. of Mechanics in Turin, at the Dept. of Mechanical Engineering and the Dept. of Electronics, Computer Sciences and Systems in Bologna, at the Dept. of Structural and Transportations Engineering in Padua, etc. This is probably a result of the novelty of biomedical engineering disciplines which attracted scientists with quite different backgrounds, especially in the very early days. This is also the key to understand the very broad range of research interests in Biomechanics with basically all subjects covered. Major roles are probably played by the following subjects - without any ranking for importance:

- joint and joint replacement biomechanics
- spine biomechanics
- bone and cartilage biomechanics
- cardiovascular (mostly minimally-invasive) devices and life support systems
- tissue engineering.

The most favourite methodology is undoubtedly the numerical simulation. Only a few centres can exhibit significant experimental facilities and expertise, probably due to the related, very high costs for purchase and maintenance.

1.346 students enrolled in the first year of a Biomedical Engineering degree (at the undergraduate study level) in the Italian Universities in the academic year 2004-05. At Politecnico di Milano an exam is prescribed for the admission to the Schools of Engineering. It provides the prospective student with a self-evaluation of his/her attitude to the engineering syllabus, but a minimum score must be achieved.

Differently from several European countries, an Italian National Society of Biomechanics has not been created yet. Several specialist societies exist on its behalf. Among them however it is worth mentioning the Italian National Group of Bioengineering ('Gruppo Nazionale di Bioingegneria', GNB) which gathers nearly all the scientists currently engaged in research in the Biomedical Engineering arena in Italy. Although currently undergoing a thorough revision, the GNB website (www.bioing.it) is a very rich source of information and details about the Italian community of biomedical engineers.

In spite of the flourishing research activities and their effect on the Schools of Engineering in attracting students, the interaction with Italian industry is still suboptimal. Although a few innovative enterprises have been set up in the last ten years and have successfully entered some market niches by investing in R&D, the Italian market of medical devices is largely dominated by multinational groups which have their R&D units based elsewhere in Europe, in the US and in Japan. As a consequence fresh biomechanical engineers are often offered positions in the marketing and technical support sectors. As a concluding remark, from the privileged standpoint of the Laboratory of Biological Structure Mechanics (LaBS) of the Department of Structural Engineering of Politecnico di Milano, I have the feeling that this situation is now getting better.

About the author

Gabriele Dubini (gabriele.dubini@polimi.it) is a professor at the Department of Structural Engineering and the Director of the Laboratory of Biological Structure Mechanics (LaBS) of Politecnico di Milano, Milan, Italy. His main research activities concern experimental and computational biomechanics in the cardiovascular field, including the optimization of the fluid dynamics in paediatric cardiac surgery procedures, as well as heat and mass transfer in tissues and medical devices. He also teaches Heat and Mass Transfer and Biofluid Dynamics in the Biomedical Engineering programme at Politecnico di Milano.

For further information, please see www.labsmech.polimi.it.

ESB 2008 AWARD ANNOUNCEMENTS

Ralph Müller – Vice President of the ESB

The mission of the European Society of Biomechanics (ESB) is to promote excellence in biomechanics research, to foster integration of clinical and basic science, and to facilitate the translation of that science to health care and clinical practice. One way in which ESB supports its mission and promotes excellence is by recognition of outstanding members with prestigious awards given at the biennial ESB Congress. All ESB members are eligible for the awards below, except as restricted by specific award criteria.

The Awards Program of the European Society of Biomechanics includes the:

- S.M. Perren Research Award
- ESB Clinical Biomechanics Award
- ESB Student Awards
- ESB Poster Award
- ESB Travel Awards

S.M. Perren Research Award

The S.M. PERREN RESEARCH AWARD was first presented at the 2002 ESB Congress in Wroclaw, Poland, and was previously named the ESB Research Award. This award, which is the most prestigious award of ESB, will be given to the first author of the best scientific paper submitted to the Chairman of the Award Committee. Papers should be based on original research and be previously unpublished. The scientific merit of the paper will be judged by the ESB Award Committee. Papers should be submitted in the format required for the Journal of Biomechanics. The award is open to all areas of biomechanics research and to both members and non-members. There will also be an award lecture named in Dr. Perren's honor at each biennial ESB Congress. The award includes a honorarium of 10,000 Swiss francs (approx. €6,000) sponsored by the AO Foundation in Davos, Switzerland, and a certificate which is presented after the S.M. Perren Award Lecture at the biennial ESB Congress.

Papers in consideration for the S.M. Perren Research Award should be sent electronically to the Chairmen of the ESB Awards Committee. The deadline for receipt of the paper for the 2008 ESB Congress in Lucerne is December 1, 2007.

ESB Clinical Biomechanics Award

The ESB CLINICAL BIOMECHANICS AWARD was established by ESB with the purpose of fostering the application of Biomechanics to clinically oriented problems. At every biennial ESB Conference the Award will be given to the most meritorious proceeding abstract. Eligibility includes ESB membership and an indication at the time of abstract submission that you would like to compete for the Award. The deadline for submitting proceeding abstracts to the 16th Conference of the European Society of Biomechanics (http://www.esb2008.org/) will be November 30, 2007.

The selection is made by an ad hoc Award Committee based both on the quality of the proceeding abstract and the presentation of the four selected award finalists at the Conference, which will be held in 2008 from July 6 to 9 in Lucerne, Switzerland. The first author receives a certificate and an amount of 1000 € donated by Elsevier Science Ltd., the publisher of Clinical Biomechanics. The award winner will be asked to prepare a manuscript which is foreseen to be published in Clinical Biomechanics as the ESB Clinical Biomechanics Award Paper.

ESB Student Awards

The ESB STUDENT AWARDS were instituted by Professor Marie-Christine Ho Ba Tho at the 1998 Congress in Toulouse, France, with the purpose to honor excellence in biomechanics already at a relatively young age. At every biennial ESB Congress one first prize Student Award and three runner up Awards will be given to four students based on the recommendation of the Awards Committee selecting the four best proceeding abstracts for a final presentation at the ESB Congress and on a secret ballot to select the first place, which will be held amongst the meeting delegates attending the award lectures. The award consists of a certificate for each winner and 1000 € for the first place and 250 € for the runners up donated by Elsevier Science Ltd. For consideration, the candidate must submit electronically an abstract to both the conference secretariat and to the Chairman of the Award Committee before or at the abstract submission deadline of the next biennial ESB Congress (November 30, 2007). In addition, a brief curriculum vitae and a statement signed electronically by the student's adviser that the applicant is a deserving candidate and will still be a doctoral student at the time of the biennial Congress should be included in the submission.

ESB Poster Award

The ESB POSTER AWARD is given at each biennial ESB Congress with the purpose of raising the quality of poster presentations at the meeting. The selection is made by an ad hoc Poster Award Committee appointed by the ESB Council and chaired by the ESB Awards Committee Chairman. The award consists of a certificate for the winner and an amount of 300 € donated by Bertec Corporation. For detailed information on eligibility, submission and the selection procedure, please refer to the Awards Regulations or contact the Awards Committee Chairman.

ESB Travel Awards

Up to eight ESB TRAVEL AWARDS will be given to the worthiest applicants based on the selection made by the ESB Award Committee. The purpose of the Travel Awards is to allow researchers with limited financial resources to participate at the biennial ESB Congresses. Any ESB member with limited financial resources who has shown a solid interest in biomechanics and who has an accepted paper at the biennial ESB Congress is eligible. The Award consists of a certificate and an amount of 400 € towards their travel and meeting expenses. To this purpose funds will be provided by the ESB Treasurer. For consideration, the candidate must submit an electronic application to the Chairman of the Award Committee including the officially

submitted paper to the ESB Congress; the applicant's curriculum vitae and list of publications; one letter of support carrying an electronic signature from a senior scientist in biomechanics who has knowledge of the applicant's capabilities. The deadline for application for a ESB Travel Award will be February 1, 2008.

To view Past-Awardees please visit:
http://www.esbiomech.org/Html/2

More information on the ESB Award Program can be found here:
http://www.esbiomech.org/Section/esb-awards

For detailed information on submissions and nominations, please refer to the Awards Regulations:
http://www.esbiomech.org/Html/16

or contact the Awards Committee Chairman:

Prof. Dr. Ralph Müller
Chair, ESB Awards Committee
Institute for Biomechanics
ETH Zürich, Moussonstrasse 18
CH-8044 Zürich, Switzerland
mailto:ram@ethz.ch

NEWSLETTERS – FROM THE PAST TO THE PRESENT

Damien Lacroix – Secretary-General of the ESB

The Newsletter of the ESB has been a long tradition of the Society and is in some way a mirror of life of the Society. The archive of all the Newsletters is now available online (http://www.esbiomech.org/Section/newsletter).

The Newsletters bear many interesting facts and gossips, and going through each of them we can also learn more about the people that really served the Society in the spirit of its creation on 21st May 1976. The first Newsletter was produced on 6 February 1979 and was written by the first President, John Scales, summarizing the early years of the birth of the ESB. In the first Newsletter it was already suggested the creation of a Federation of European Societies which finally culminated in 2004 with the official creation of the EAMBES (http://www.eambes.org/) where the ESB is particularly active. Another interesting note in this first Newsletter is the announcement of the creation of an 'acting' Editorial Board of the Journal of Biomechanics chaired by Rik Huiskes setting the deep relationship of the members of the ESB with this journal.

After this first Newsletter, they have been periodically published since 1982 with only a few gaps from 1986 to 1988 and then from 1999 to 2001. The ESB has grown steadily since the initial 20 founders in 1976 to already 161 members in 1982 and to nearly 500 up to now. Delinquent members have always been a problem in the ESB with a report from the Council in 1982 stating that 'members who do not pay their fees for two subsequent years will be removed from the membership list'. This allows me to remind those in this situation to pay as soon as possible.

The Newsletter tells us that the ESB has had since the beginning many links with its sister Society, the European Society for Biomaterials, that shared co-founders and that co-sponsored various meetings with the ESB. Workshops of the ESB have also been organized very early with the first workshop organized by Aurelio Cappozzo in 1983 and are now a regular event every two years in between biennial meetings.

Care for our young scientists was taken seriously very early with the creation of 'Junior Members' in 1982. However, this membership had not been written in the By-laws and went gradually forgotten until it has been officially reinstalled in 2000 as 'Student Membership'.

The ESB Award was first created in 1985 to be given at every General Meeting with a certificate of 400$. This Award has been a keystone in excellence in biomechanics since its creation and is now called the S.M. Perren Research Award with a certificate of 10,000 Swiss francs sponsored by AO.

Newsletter content from the members has always been difficult to obtain and I am joining Aurelio Cappozzo's cry in 1984 to ask you to take part as well of the history of the ESB by sending information to the Editor of the Newsletter.

Finally, I would like to thank Monique Donkerwolcke, co-founder and past-Treasurer of the ESB, for sending me all the hard copies of the Newsletters and making possible the creation of this archive available to all members. I hope that you will enjoy reading these dusty Newsletters but still very much linked to us.

FROM ESB AND EAMBES TO FP7: LOBBYING PAYS OFF!

Marco Viceconti - President of the ESB

One of the roles a scientific society should play is to represent its areas of interest at all public forums, e.g. to provide "positive lobbying" that helps to bring its area of interest to the attention of the public and of the policy and decision-makers, which is turn can influence the amount of funding an area receives.

It is not a case if I use the adjective positive for the word lobbying; at least in Italian the word Lobbying is used as a neologism, to indicate something of negative, a sort of political fiddling behind the scenes to protect equally obscure interests. With positive lobbying I mean something different, a transparent process of information toward the stakeholders, pursuing a public agenda within the limits of our professional ethics.

This role is something relatively new for the European Society of Biomechanics; it does not belong to our traditional culture, and we always considered lobbying more a problem for our colleagues in the USA than for us. However European society is changing, and it is becoming more and more evident that our social duty as scientists is not only to do good research, but also to make sure that results and the value of this research is properly disseminated to the stakeholders in this research be they various national and international bodies or the public at large.

The problem with lobbying is that it takes time, effort and skill; it is therefore a very large amount of work for a relatively small society like ours. This is why last year the ESB Council decided to join the newly formed European Alliance for Medical and Biological Engineering and Sciences (EAMBES - http://www.eambes.org/). Under the umbrella of EAMBES, using the "one voice" initiative they promote, enables us to join forces with other small organisations involved in biological and biomedical engineering to effectively reach a critical mass sufficient to pursue European-wide lobbying opportunities. During 2006 EAMBES performed this job very well, representing, through its member societies (including the ESB), 8000 bioengineers, in its lobbying of the policy-makers of the EC.

Another important related event this year was the STEP Action, which I have the honour to coordinate. STEP is a coordinated action aimed to produce the research road map for the development of the so-called Virtual Physiological Human, which relies heavily on the physical description of physiology and pathology, e.g. biomechanics (see: http://www.europhysiome.org/)

Thanks to the joint efforts of these two organisations, the forthcoming Seventh Framework Program of the European Commission will include specific research topics relevant for biomechanics and bioengineering. The official work programmes should be released in a few days time, and only then will we be able to be more specific regarding the exact nature of what research areas are to be funded. However, from the draft documents recently circulated, we can anticipate that considerable funding will be allocated under the Information Society Technology program for technology related to the multiscale simulation of human physiology and pathology, and that within the Health program, Medical Technology will be prominent.

This preliminary information confirms that this is a positive future direction for the ESB. We need to constantly pursue positive lobbying for biomechanics research, and we must do it under the umbrella of a large organisation which best represents the interests of our members, e.g. the EAMBES initiative.

I want to take this opportunity to thank, on behalf of our Society, the President of EAMBES, Prof. Jos Vander Sloten for all of his work in this area. Jos will step down on 31-12-2006, and will leave the EAMBES Presidential Chair to another prominent member of ESB: Prof. Patrick Prendergast. As an ESB Council, we look forward to continue this very fruitful collaboration.

STUDENT CORNER

Sabine Bensamoun – Chair of the Student Committee

Did you already subscribe to the mentoring program?

The mentoring program is now well described on the ESB student corner, with different links explaining:

- Who can participate to the Mentor / Mentee program?
- What are the responsibilities of a mentor or a mentee?
- Who are the current participants?
- Available documents: questionnaire sent to the current participants and their answers.

The reactions we received in our questionnaire were very positive, both from mentees and mentors. They experience the mentoring program as a very useful tool to get to know people in the biomechanics field and a good scientific match was provided for most of the mentor-mentee couples. Almost all couples enjoyed one or more coffee breaks or lunches together, discussing presentations, specific research topics

and a career in science in general. Most of the mentoring teams have indicated that they will continue their mentoring activities after the conference.

When to subscribe to the mentoring program?

Based on the information that was sent out by the mentoring committee, initial contact was established before the start of the conference. We advise to subscribe a year in advance in order to have time to exchange with your mentor and to prepare an efficient meeting in Lucerne at the ESB2008. For more information on this program, you can contact the mentoring ESB student committee at http://www.esbiomech.org/Section/mentoring.

ESB Student Forum

A new forum for the ESB students was recently created and we encourage all the students to participate actively in this forum: http://www.esbiomech.org/Forums/

Ongoing project: Marie-Curie Fellowship

For the next ESB meeting in Lucerne, a special session called "grant writing" will be organized. This session could be held during the lunch time (one hour or more). The purpose of this session will be to present to the ESB students how to write (advices) a Marie-Curie grant to apply for a post doc in Europe. This project will be done in partnership with Stephane Aymard, coordinator of the network of information about the program PEOPLE (FP7).

SOCIETY NEWS

Endorsed meetings

The Society endorses related meetings for diffusion to its members and for the possibility for the organizers to use the ESB logo and the phrase "under the patronage of the ESB" in their printed materials. Proposals for endorsements must be submitted to the Meeting Committee Chair (georg.duda@charite.de).

The following future meetings are endorsed by the ESB:

- ***III International Congress on Computational Bioengineering (ICCB III)*** (September 17-19, 2007, Margarita Island, Venezuela, see www.iccb2007.org).
- ***Prediction and evaluation of total hip replacement performance*** (June 22-23, 2007, Leuven, Belgium, see hiphub.mech.kuleuven.ac.be/symposium/HipHub_2nd_announcement.pdf).

EAMBES meeting on Biomedical Engineering Education and Accreditation

The EAMBES Task Force on Education is organizing a meeting in London, UK, on June 14, 2007, about Biomedical Engineering Education and Accreditation in Europe. More information will appear on the EAMBES website (www.eambes.org) or can be obtained from prof. Liz Tanner (K.E.Tanner@qmul.ac.uk).

Proposals for future Workshops

With the organisation of the second ESB 2007 Thematic Workshop being well underway it becomes necessary to consider topics for future Workshops. The ESB invites proposals for future Workshops (next one is scheduled for 2009). Interested members can informally contact, or send a proposal to Peter Zioupos (p.zioupos@cranfield.ac.uk), the chair of the Education Committee.

Construction of a list on 'Courses in Biomechanics' offered across Europe

We will initially focus on courses with a significant biomechanics component (more so than for instance in biomaterials or biomedical engineering) and at (initially) graduate level. Once a reasonable amount of information has been gathered the courses will appear in our ESB web pages under 'Education'. In the future ESB members will be able to update the information for their courses according to developments. The idea is that the 'Courses in biomechanics' list will work very much like the list on 'Biomechanics laboratories' that currently appear in the 'Students / biomechanics laboratories' section. The ESB invites therefore, its members to forward to the education chair (p.zioupos@cranfield.ac.uk) information for their university courses that they are involved with, simply as: course title / web link.

Revision of the statute of the ESB

By now you should have received an e-mail from Marco Viceconti to inform you on the revision of the statute of our society. A draft was prepared during the latest Council meeting in Lucerne, on January 15-16; 2007. Although most of the changes are technical in nature, the Council agreed to submit the draft document to the scrutiny of the membership before the formal voting during the next General Assembly (at ESB2008) takes place, so as to give each member the opportunity to debate the proposed amendments.

If you have any comment to these changes, please send them to the Secretary-General, Damien Lacroix (secretary.general@esbiomech.org), before 31 July 2007.

In case you did not receive this e-mail, it may be time to update your personal information (including e-mail address), which can be done on-line (after logging in) at http://www.esbiomech.org/Account/Home.

The draft document can also be downloaded from the website (after having logged in): http://www.esbiomech.org/Downloads/folder/21.

New ESB members

Since November 2006 we have had the pleasure of welcoming 16 new members:

Andrew Hopkins (United Kingdom), Carl Schmitt (Switzerland), Friederike Bleckwehl (Germany), María José Gómez-Benito (Spain), Estefania Peña (Spain), María Angeles Pérez Ansón (Spain), Amaya Perez del Palomar

(Spain), Johan Jonsson (Iceland), Michal Pawel Zlowodzki (Canada), Maarten De Vleeschouwer (Belgium), Jose Rodriguez (Spain), Francois Asseman (United Kingdom), Gheorghe Frunza (Romania), Paul Ingle (United Kingdom), Caitriona Lally (Ireland), Leonidas Spirou (Greece).

Registration of experts for FP7

The call for experts for the seventh framework programme has been launched. On-line registration is possible through the following link:

https://cordis.europa.eu/emmfp7/index.cfm?fuseaction=wel.welcome

We would like to invite all ESB members to consider this opportunity.

ESB GOSSIP

I know this is becoming rather annoying, as it is far from the first time I invite you to provide input for the ESB Gossip corner. So please, if you or one of your ESB colleagues have distinguished yourself in some way – you received special recognition for your work, you were promoted or changed job, you retired… – and it is related to biomechanics, do not be too modest and let me know (by sending an e-mail to news@esbiomech.org). – *Hans Van Oosterwyck*

First the serious stuff…

Prof. ***Liz Tanner*** from Queen Mary University of London was elected Chair of the Division of Society on the European Alliiance of Medical and Biological Engineering and Science (EAMBES).

Harry van Lenthe was elected to a professorship at K.U.Leuven, Belgium. Prof. van Lenthe obtained a PhD from the Eindhoven University of Technology (under the supervision of prof. Rik Huiskes) and then joined the Institute for Biomechanics at ETH Zürich, where he worked together with prof. Ralph Müller. Since January 2007 he has joined the Division of Biomechanics and Engineering Design at K.U.Leuven, led by prof. Jos Vander Sloten.

The Institute for Biomechanics at ETH Zürich (prof. ***Ralph Müller***) has been awarded the 2007 Publication Group Award of the German Academy of Osteologic and Rheumatologic Sciences, which come with the prize money of 5000 Euro.

And then the cultural stuff…

…so even more serious! If for any reason some of you, sometimes, in a moment of complete delirium, dare to doubt about the relevance or fascination of biomechanical research, then we have found the perfect answer to your doubts. According to ***Dr. Lutz Dürselen*** from the Institute of Orthopaedic Research and Biomechanics in Ulm, biomechanics just gives you a thrill! Together with his band ***The Rolling Bones***, he even wrote a song about it, called Bony Inspiration, which simply puts a smile on your face, even in times of total mental depression. As the ESB not only wants to encourage, foster, promote and develop research, but is also concerned with your mental health, we thought we have to share with you this great song, which from now on can be considered to be the hymn of biomechanics. If you want to find out more about The Rolling Bones' repertoire, we advise you to have a look at their website and, especially if you have some notions of German, listen to other wonderful songs like "Hotel Biomechanics" and "Forscher sind Schweine" (no translation needed!):

http://www.biomechanics.de/ufb/Information/Musik/Musik_englisch.html#

Bony inspiration

The Rolling Bones

When you´re sad thinking there´s no way.
Join us doing some experiments.
Stretching cells can make you gay.
Squeezing specimens is happiness.
Come on my friend, do some good research
What´s the reason for, tell me why, find it out.

And sing:
Chorus:
Give me bones and give me joints
That´s my inspiration.
Cells in chambers are my friends
They love stimulation.
All in all I have to say
believe me I don´t lie
It´s Biomechanics that gives me a thrill!

When your friend is depressed and cries some tears.
Help him up and bring him to the lab.
Show him how we are living without fear
Helping people who are badly ill.
Come on my friend - do some good research
What´s the reason for, tell me why, find it out.

And sing:
2 x Chorus:
Give me bones and give me joints
That´s my inspiration.
Cells in chambers are my friends
They love stimulation.
All in all I have to say
believe me I don´t lie
It´s biomechanics that gives me a thrill!

Give me bones and give me joints
That´s my inspiration.
Cells in chambers are my friends
They love stimulation.

Lyrics by Dr. Lutz Dürselen – Ulm - Germany
Original version: You´re the inspiration - Chicago

BLAST FROM THE PAST

Time to introduce a new column to the Newsletter, for which we require your input (especially from our most senior members). In order to keep the history of our Society alive, we would like to include pictures of past ESB activities, like the biennial congresses. For this issue of the Newsletter Prof. Pasquale Mario Calderale from the Politecnico di Torino, one of the founders of our Society, was so kind to provide us with a picture, taken at the banquet of the first ESB meeting in Brussels in 1978. Thanks to Monique Donkerwolcke, co-founder and past-Treasurer of the ESB, we could identify most of the persons in the picture.

If you have similar material that you would like to share with us, send it to the Newsletter editor at news@esbiomech.org – *Hans Van Oosterwyck.*

Banquet of the first ESB meeting in Brussels in 1978: R. Bourgois (1), M. Donkerwolcke (2), R. Lemaire (3), P. Calderale (4), M. Hinsenkamp (5), F. Burny (6), J. Wagner (7),