



European Society of Biomechanics

# Newsletter

Spring 2010

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## MESSAGE FROM THE PRESIDENT: Ralph Müller

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Dear Members,

As many people before me, I am currently sitting here wondering what to write in my last address to you as a President. Should I start with a summary of what has been accomplished in the last two years? Should I give advice for the future of the Society? Look at it more from a personal stand point and reminisce about the Good Old Days and what my days will be like without thinking about Society matters?

In such situations I tend to look for inspiration from other people and it looks like that I am in good company doing so. Winston Churchill declared, "It is a good thing for an educated man to read books of quotations." Not to be outdone, Anatole France once remarked, "When a thing has been said and said well, have no scruple. Take it and copy it."

The first thing that came to my mind was "The end is near" from Paul Anka's English text to "My Way". I always liked this song performed so well by Frank Sinatra and although the song is talking about achievements throughout the whole life, I still think that the text is also appropriate to describe how I would have liked to describe my time on the Council and now as a President. The first two verses go like this:

"And now, the end is near, and so I face, the final curtain. My friend, I'll say it clear, I'll state my case, of which I'm certain. I've lived, a life that's full, I've

travelled each and every highway. And more, much more than this, I did it my way.

Regrets, I've had a few, but then again, too few to mention. I did, what I had to do, and saw it through, without exemption. I planned, each charted course, each careful step, along the byway, and more, much more than this, I did it my way."

I can easily find analogies in the text for the services rendered to the Society as an elected official. Of course, I will let others to be the judge whether I was able to achieve these idealized goals. Nevertheless, I also have to say that although I was able to do many things "My Way", I am actually very proud to say that most of the accomplishments are a product of the work performed in the various committees of the Council.

With that in mind, I would like to remind you that at the next general assembly in Edinburgh there will be a number of new Council members elected as Marco Viceconti and myself will have to step down from the Council after the maximally allowed eight years of service. I would like you to consider nominating yourself if you are interested in giving something back to the Society. The deadline for nominations is April 30, 2010. All the other members, I would like to invite once again to our biennial meeting and to attend the general assembly to cast their votes. I am sure this will be a great event in Scotland; preparations are running in full speed and the scientific program looks very exciting. Do not miss the deadline for early registration at the end of this month.

With that I would very much like to thank my colleagues on the Council, present and past, and all the volunteers on the committees for their excellent leadership, commitment and hard work. I would also like to thank you, as our members, for electing an active council and supporting us in our decisions. **From all this, I can really say that we truly did it "Our Way" – the "ESB Way".**

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## EAMBES: STATE OF THE ALLIANCE 2009: Marco Viceconti, ESB past president and chair of EAMBES executive board

The European Society of Biomechanics is a member of EAMBES the "European Alliance for Medical and Biological Engineering & Science. Here we present a report from the EAMBES Board of Directors that summarises the current state of the Alliance, its main achievements so far, and a brief description of the reorganisation program that the Alliance management is currently undergoing to better face the challenge its role involves.

In the wake of the new membership renewal campaign, and in coincidence of the formal launch of the EAMBES re-launch plan, the General Council of EAMBES felt the need to inform all its members about our alliance.

### A brief history: EAMBES so far

EAMBES was born out of a need, but also out of difficulties. In our modern world, it is becoming more and more difficult for the public opinion to fully grasp the role of higher education, research and technological development, in particular with respect to the investment of taxpayer's money into the development and establishment of certain disciplines rather than others. It is somehow a paradox that while almost all European governments declare that a) funding should steer toward more applied research, and b) healthcare provision is the biggest challenge to be faced for the next years, the attention funding agencies and university ministries have given to Biomedical Engineering has been spotty at least to say. In the USA the same conditions produced a great attention for Medical and Biological Engineering (MBE), with abundance of research grants, higher education funding, the creation of the NIBIB within NIH, etc. What is the difference? It has been suggested that in the United States bioengineers were able to speak with one voice to policy makers, decisions makers, and to the public at large.

On the contrary in Europe the MBE community presented itself as highly fragmented. In the academia of some member states the links with the parent engineering domain (mechanical, electrical, etc.) remains for a number of reasons stronger than the biomedical engineering identity. In research, MBE is fragmented in dozen of medium to small scientific societies, each focusing on a small region, or on a small sub-topic of MBE.

In this milieu a group of colleagues, started in the early 2000 the statutory process that produced in 2004 the incorporation of EAMBES. The first years of activity for EAMBES were characterised by two contradicting signals. On one hand, the creation of EAMBES was welcomed at various institutional levels as a positive event, and for the first time ever we noticed some attention from the decision makers when we were able to express recommendations (mostly toward the European Commission). This confirmed that the fundamental assumption of EAMBES: *United we stand, Divided we fall*. But at the same time these

first years showed that there was a structural reason why the European MBE community failed for some many years to express a collective identity, and why the statutory process for EAMBES was so slow and difficult.

### The achievements of EAMBES so far

In spite of some organisational drawbacks (which will be discussed below) –

**2005:** EAMBES position paper. "Engineering for Health: A partner in the development of a knowledge-based society for the benefit of European healthcare" is sent to the Commissioner for Research Dr. Janez Potocnik and to the Directorate Generals for Research and for Information Society and Media. Compared to a similar position paper written and submitted by a small group of bioengineering researchers during the preparation of FP6, this recommendation receives the attention of the various stakeholders, mostly because EAMBES represents 8000 researchers in MBE.

**2005:** Second Whitaker summit, March 4th. EAMBES was invited to represent Europe. Prof. Dick Slaaf gave a plenary presentation on Biomedical Engineering Education in Europe.

**2005:** EMBEC '05, Prague, November 23rd. EAMBES organized the Symposium "BME Education and Accreditation in Europe".

**2006:** EAMBES position paper. "Recommendations of the European Alliance for Medical and Biological Engineering and Science for the 7th Framework Program of the European Commission" aimed to influence the scope of the Seventh Framework Program (FP7) that would start in 2007, and of all related national programs that base their structure on it. Of the three priorities recommended in this document (Virtual Physiological Human, Intelligent Medical Devices, and Quantitative Evidence-Based Medicine) the first is actively pursued in cooperation with the EuroPhysiome Initiative, and results as one of the key priorities of the FP/ ICT workprogramme. To date over €140m have been allocated for Virtual Physiological Human research projects.

**2007:** a meeting of the EAMBES Task Force is organised in London.

**2008:** EAMBES endorses MBEC 2008 congress in Antwerp.

**2008:** MBEC, Antwerp, November 24th. EAMBES organized three Education Symposia. Symposium I: "EAMBES: BME education: Designing Curricula: Research and/or profession"; Symposium II: "EAMBES: Best Practice in BME education"; Symposium III: "EAMBES: Is Elearning suitable for Biomedical Engineering?".

**2009:** EAMBES submits a recommendation to the Director of Directorate F - Health of DGRTD, for a call for proposals for a networking action entitled "Technology in Health: a European Research Roadmap". The goal is to provide a research roadmap for health technology that could provide the

justification for specific call for proposals in the final part of FP7 or in FP8. After a first interlocutory meeting in Brussels with some representatives of Directorate F, we are now planning a new strategy in this respect.

**2009:** World Congress on Medical Physics and Biomedical Engineering, Munich, September 7th-12th. EAMBES organized the Symposium: "BME education: Designing Curricula; Research and/or profession orientation".

**2009:** first internal draft of "Recommendations of the European Alliance for Medical and Biological Engineering and Science for the 8th Framework Program of the European Commission" has been discussed within the Council, and presented informally to some key stakeholders with request for comments. The draft, currently being revised, recommends the following priorities:

- 1: creation of European MBE Institute and other infrastructures.
- 2: creation of MBE panel at the European Research Council.
- 3: Dedicated priority for Biomedical technology in FP8/Health.
- 4: Continue the development of the VPH in FP8.
- 5: Dedicated priority for intelligent medical devices in FP8/NMP.

#### **The EAMBES re-launch initiative**

After some years of activity, it is now possible to make a balance of the life of our alliance. The most positive aspect of EAMBES is that we were confirmed, in a number of situations, that when our community speak with one voice, which is possible only under the EAMBES trademark, the stakeholders tend to listen. The negative is that the alliance never took off from an organisational point of view, with serious issues that culminated in the failure to collect 2009 fees and to call for the electoral round. We must recognise that under these conditions the continuation of EAMBES as an important player in the BME domain needs major changes and adjustments.

EAMBES statute designs an organisation structured and operated as a scientific society, whose operations are largely based on the voluntary effort of some of its members; unfortunately, the members elected to serve in the different bodies of the Alliance have failed in their duties during several years.

During the extraordinary General Council meeting on December 3rd, 2009 it was agreed that this lack of activity is not occasional, or related to the particular inadequacy of single council members, but it is due to a profound confusion regarding the nature of the alliance. EAMBES is not a conventional scientific society and hence is not likely to attract young, skilled, but relatively free researchers that find in the commitment to the day to day operations of a scientific society a way to enhance their own carriers and curricula, while serving their specific research community. The ones who understand the value of an organisation such as EAMBES are mostly senior academic members (e.g. professors), senior researchers, and to a lesser extend members of industrial alliances as well as some members of the

EU, who fully appreciate the many situations where the possibility to speak with one voice is the only chance we stand in this growingly competitive and rapidly changing system where adjustments in the strategy to follow should be made within tight timeframes and sometimes with high frequency. However, these people are by definition extremely busy, and cannot and should not use their precious time dealing with clerical duties. We need to recognise that EAMBES is not a scientific society, stop pretending we can operate it as if it was, and adopt an organisational model that is sustainable in the long term, given that in spite of all its limits and fallacies, in its short life EAMBES already proved vital in the support of Biomedical Engineering research in Europe both. Under a mandate of the Members of the General Council attending the extraordinary meeting, Marco Viceconti, Jos Spaan, Maria Siebes, Nicos Maglaveras, Heikki Terio, Jos vander Sloten and Dick Slaaf wrote a document that aims to define concretely a reorganisation plan to salvage the alliance and restart it into the successful organisation we all dream of. The General Council approved this final version of the document on January 17th, 2010; it is now considered executive in all its parts. This plan can be summarised as follow:

- a) The society enters into a period of extraordinary administration; during this period all the charges and roles of current elected Offices are suspended. No elections will be carried out.
- b) A pro tempore Board of Directors (BoD) is formed, with the responsibility to operate the society during this extraordinary period. It assumes the powers of the President, of the Presidents Past and Elect, and of the Secretary General. The BoD Chair acts as EAMBES spokesperson. To ensure legal operability, Dick Slaaf continues to act as Treasurer, and Nicos Maglaveras as legal representative. It is proposed that the Board of Directors is composed by:
  - a. Marco Viceconti (Chair)
  - b. Nicos Maglaveras
  - c. Jos Vander Sloten
  - d. Dick Slaaf
- c) We contract a lobbying consultant firm, Rohde Public Policy, to work with the BoD on the immediate implementation of strategic lobbying actions that are deemed urgent, with the aim of:
  - i. Elaborating an adequate EU policy for biomedical engineering
  - ii. Implementing immediate actions driven by spot opportunities or initiatives that have already been undertaken
  - iii. Defining a permanent lobbying program to be included in the next 2011 business plan
  - iv. Positioning EAMBES as the main contact point in relation to Biomedical Engineering and Medical Technology research in Europe for decision makers within the EU Commission
- d) The BoD selects a part-time manager that takes full responsibility for the day-to-day operations.
- e) A new web site is placed in production no later than March 2010.

f) A General Assembly is organised in Brussels in May 2010.

g) On the basis of the General Assembly outcome, a business plan for 2011 is approved, and the period of extraordinary administration ends.

#### The EAMBES Voluntary projects

One of the things we understood in these years is that in order to build a successful policy action it is not only necessary the collective identity that EAMBES provides, and which makes possible for the whole European MBE community to speak with one voice. We also need *champions*: colleagues that driven by personal or local condition and motivations are ready to invest a significant amount of their time and energy to pursue a policy goal that is at the same time perceived by our community as of general interest. The many actions EAMBES managed to pursue in these years are little things compared to those that we could express as community. For this reasons the re-launch plan includes participation mechanisms that make possible for single societies, institutions, or even individual members to propose specific policy actions that are considered of general interest for our community, and that the proponents are willing to pursue as champions, on behalf of EAMBES and leveraging of the support that the alliance can provide. In a first explorative round within the General Council this tentative list of ideas came out, that are reported here just to illustrate the variety of goals that voluntary projects can target:

- Start the fellowship program, by defining the specific membership rules and procedures, and start their application in relation to the 2011 membership campaign.
- Elaborate an action plan for EAMBES in the area of Education.
- Re-launch of the EMBEC conference as *the* conference for European Biomedical Engineering, fully endorsed by EAMBES, and its active commitment to the success of the event.

- Development, deployment and maintenance of a community web service for EAMBES, with a CMS software that makes possible to all members to contribute directly to the content. The hosting and the coordination of the content update is part of the business plan, but the development of the web site should be done as a voluntary project.
- Active lobbying for the VPH, through the VPH institute.
- Active lobbying for MBE in the DGRTD Health program.
- Active lobbying for the creation of a multidisciplinary panel cluster inside the ERC investigators awards mechanism.
- Active lobbying for the creation of a European Institute for Biomedical Imaging and Bioengineering, much like the NIBIB NIH institute in USA.
- Targeted communications actions in single member states aimed to promote the role and the visibility of MBE in Europe.
- Establish links with medical and pharmaceutical professional societies to integrate BME into their activities.
- Creation of professional quality version of the EAMBES logo and other visual material for EAMBES.

Not all these ideas might find a champion, and not all might be considered of collective interest. And, more important members should not feel themselves limited to this list. Every idea is welcome at this stage. We shall soon inform the membership of the procedure to selected voluntary project; meanwhile, if you are considering of proposing to EAMBES a voluntary project we recommend that you contact the EAMBES General Manager via email at [manager@eambes.org](mailto:manager@eambes.org).

## MEETING ANNOUNCEMENT

### 17th Congress of the European Society of Biomechanics, 5th-8th July, 2010, Edinburgh, UK

**EARLY REGISTRATION DEADLINE - APRIL 30th 2010**

[www.esbiomech2010.org](http://www.esbiomech2010.org)



The 17th Congress of the European Society of Biomechanics will be hosted by The University of Edinburgh, Scotland, UK. The University's central campus is located in the city's Old Town, at the heart of the capital. Edinburgh is one of the greenest and architecturally most beautiful cities in Northern Europe,

with a colourful history based on the nation's political and cultural past. The University was founded in 1558 and features some of the grandest buildings in the city, as well as the most modern academic facilities and services. Lectures will be held amongst the University's George Square with no more than 5 minutes walk in between congress venues.

#### Key Dates:

**Early registration closes:** Friday 30 April 2010

**Registration closes:** Friday 18 June 2010



### Social events:

The conference dinner will be held at the Dynamic Earth science museum (Find out more from: <http://www.dynamicearth.co.uk/>) overlooking the Scottish Parliament and Holyrood Palace (the Queen's official Scottish residence). Opened in 1999, Dynamic Earth is a strikingly modern building set against the geological backdrop of Arthur's Seat; a vast volcanic formation including the basalt cliffs of Salisbury Crags. Opening with a wine reception and private access to the museum's galleries, guests will be encouraged to explore the various environments and exhibitions. A three-course meal will then be served in the upper Stratosphere. The evening will culminate with a traditional Scottish Ceilidh of celtic music and displays of highland dancing. In addition, there will be a welcome reception on the first evening, as well as the opportunity for whisky tasting. Edinburgh has excellent transport links with the UK and with Europe. For additional travel information, visit the Scottish Tourist Board web site: [www.visitscotland.com](http://www.visitscotland.com)

### ESB 2010 CONFERENCE TUTORIALS:

There will be four tutorials held as part of the conference. These are aimed at graduate students, post-docs, and young researchers, although experienced researchers are also welcome to attend. The cost of each tutorial is £20 per tutorial or £35 for two when booked at the same time. All costs include lunch and a coffee/tea break. See <http://www.lifelong.ed.ac.uk/esb2010/tutorials.html> for more details.

**Tutorial 1:** 11.00 am - 1.00 pm

**INNOVATIVE METHODS FOR THE GENERATION AND VALIDATION OF MUSCULOSKELETAL MODELS** An update on the most innovative methods to generate and validate predictive biomechanical models of the musculoskeletal system

Dr. Marco Viceconti, *Istituto Ortopedico Rizzoli, Bologna, Italy*

Dr. Fulvia Taddei, *Istituto Ortopedico Rizzoli, Bologna, Italy*

Prof. Luca Cristofolini, *University of Bologna and Istituto Ortopedico Rizzoli*

**Tutorial 2:** 11.00 am - 1.00 pm

**ARTERIAL MECHANICS** an introductory tutorial on arterial mechanics with an emphasis on imaging and modelling of arterial disease.

Dr. Peter Hoskins, *Medical Physics & Medical Engineering, University of Edinburgh, UK*

Dr. Quan Long, *Institute for Bioengineering, Brunel University, UK*

Prof. Bill Easson, *School of Engineering and Electronics, University of Edinburgh, UK*

**Tutorial 3:** 2.00 pm - 4.00 pm

**MEDICAL IMAGE ANALYSIS** an overview of medical image analysis and state-of-the art methods in image segmentation, registration, shape modelling, and validation methods.

Dr. Julia A. Schnabel, *Institute of Biomedical Engineering, Department of Engineering Science, University of Oxford, UK*

**Tutorial 4:** 2.00 pm - 4.00 pm

**MUSCLE MECHANICS** an introduction into muscle mechanics, the construction of models of muscle-tendon complexes, and the utilization of such models in, for example, forward simulation of movement.

Dr. Maarten F. Bobbert, *Research Institute MOVE, VU University Amsterdam, The Netherlands*

### ESB 2010 CONFERENCE PROGRAMME:

The programme can be viewed at:

<http://www.lifelong.ed.ac.uk/esb2010/programme3.htm>

**Keynote lectures:** each day at 10:30 there will be a keynote lecture on key themes in Biomechanics:

**Monday:** Professor Peter Hunter, University of Auckland, New Zealand

**Tuesday:** Professor Alison Noble, University of Oxford

**Wednesday:** Professor Allen Goodship, Royal Veterinary College, London

**Thursday:** Professor Duncan Dowson, University of Leeds

**Oral Presentations:** there will be six parallel sessions of oral presentations three times a day on themes from Cardiovascular Biomechanics, Musculoskeletal Biomechanics, Mechanobiology, Forensics and Computational Modelling. Including two joint sessions with the European Society of Biomaterials: 'Tissue Engineering Scaffolds' and 'Ligament and Bone Substitutes'

**Poster Presentations:** there will be 300 posters to view during lunch and coffee breaks as well as in the special poster session on Monday evening prior to the opening ceremony

### ESB 2010 AWARDS

There will be award presentations by the European Society of Biomechanics each day at 2pm. These will be a plenary talk from the winner of our prestigious S.M. Perren award, four talks from the finalists of our student award and four talks from the finalists for the Clinical Biomechanics award.

### THANK YOU TO THE SPONSORS OF ESB2010

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## INTRODUCING THE ESB FACEBOOK ACCOUNT: Bill Taylor and Alessandra Carriero, student committee

Dear Members,

We would like to draw your attention to the "European Society of Biomechanics" Facebook Group created for all the ESB members to promote active participation within the Society using the tools offered by Facebook as a progressive on-line forum.

The ESB Facebook group has been created to be a friendly and open method of exchanging relevant and up-to-date information, as well as to allow members to contribute to discussions & debates, add observations or comment, provide teaching suggestions or aids, or advertise jobs and academic positions. The group is open to all the members, so we would encourage you all to get on board and share your topics with the other members. We see this as an interesting and easy way to interact with colleagues, get feedback, comments and advice, and provide relevant news, such as new research topics, grants/awards, best poster/paper, images or ideas from your work.

For those members that wish to participate and use this opportunity to contribute to the ESB social and scientific community network through Facebook, please log into your Facebook account ([www.facebook.com](http://www.facebook.com)) and simply type "European Society of Biomechanics" in the search field. After sending your request to join the group, your application will be rapidly processed by a member of the ESB committee. If you already have a personal Facebook profile you may wish to create a 'work profile' for activities such as the ESB group.

We have deliberately decided to keep the format of the Forum flexible in order to allow it to grow in a manner that fits its active members, but to start us off, we have laid out a number of discussion events to allow a basic construction. Please try to follow these as far as possible, but if you have any questions, issues or specific suggestions that you would like to discuss or propose to improve the experience of members within the ESB Facebook group, please feel free to contact Bill Taylor ([student.chair@esbiomech.org](mailto:student.chair@esbiomech.org)) or Alessandra Carriero ([a.carriero@ymail.com](mailto:a.carriero@ymail.com)). We wish you all an excellent continuation in your research activity and looking forward to seeing your active discussions on Facebook.



## STUDENT'S CORNER

### EVENTS AT THE ESB CONGRESS 2010 IN EDINBURGH:

We are pleased to invite all student members of the ESB to two specially organized events taking place at the ESB congress on 6<sup>th</sup> July 2010 in Edinburgh.

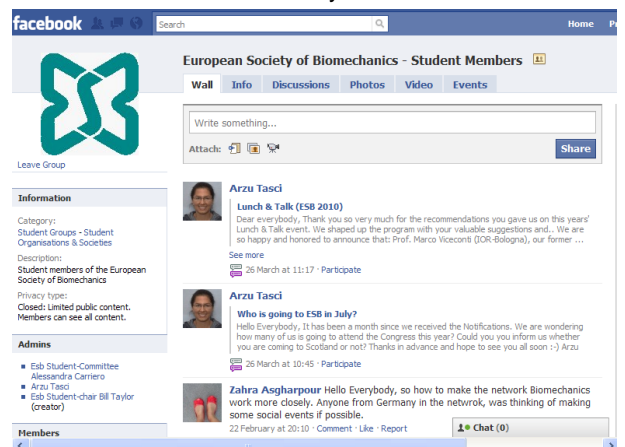
The first will be a lunchtime presentation on Tuesday 6<sup>th</sup> July at 12:30pm until 13:30 from Prof Marco Viceconti, ex-president of the ESB, on the topic of "Completing a Ph.D., undertaking sabbaticals, working abroad and life thereafter!"

The event will include the opportunity to talk with Prof Viceconti personally, as well as many of the ESB council members, and discuss a range of topics of interest or concern. A buffet lunch will also be provided, thus allowing a short break from the conference to also meet other students in the field of Biomechanics.

The second event planned is the 'ESB Student Evening', a more social event aimed to provide the chance for students to get to know one another. This will be held at the Students Union of Edinburgh University from 7:00pm on the evening of the 6<sup>th</sup> July. This event is open to all students (ESB student members as well as non-member students) who have registered at the ESB Conference 2010 - Hundreds of students have registered for the conference and over half of these are already ESB members! As the World Cup organisers have planned their semi-final to coincide with our evening event, we have prepared a big screen to allow all to see the big game. So, spread the news and bring your student friends and colleagues along. It will be a fantastic event to socialise with colleagues in the field of Biomechanics from all over the world. Take advantage of your student status to enjoy yourself and our society!

We look forward to seeing you all on the 6<sup>th</sup> July at both the lunch time presentation and at the Student's Union at 7pm onwards ... and always remember, life can be good if you let it!

Bill Taylor & Alessandra Carriero



## MEMBERSHIP NEWS:

### MEMBERSHIP SURVEY

Recently, the ESB board proposed a survey to its members. The survey was about the members "feel" the society and what would be useful as a member. We are very happy to announce that 273 members took part to this survey. This represents more than 40% of our members. It is then already a good sign of the society vitality as moreover, many members took some extra times to add personal comments. We would like, as a board to thank all our members who participated in this survey. A complete analysis of the survey will be presented in a next ESB Newsletters, as a majority of our members think that the ESB members is a useful communication tool for our society. I can not resist giving you one snapshot of the results. It seems that almost 50% percent of our members do not come regularly to the ESB meeting. I truly hope that this will change in the future so that we can have only a minority of our members who do not come regularly. So, why not begin this year by attending the very promising meeting at Edinburgh?

Dominique Pioletti - Membership chair

### DON'T FORGET YOUR 2010 ESB MEMBERSHIP RENEWAL:

In order to take advantage of the reduced congress fees for ESB members, make sure you have paid your membership dues before April 30. In order to renew your membership (and to subscribe to any journals), please follow the link below, which will take you to the online payment procedure (accessible after login) and where further information can be found concerning this procedure:

<http://www.esbiomech.org/Account/MembershipPayment>

For the actual payment you can choose between online payment (through PayPal, valid credit card required) or bank transfer. For ease of processing ESB recommends online payment.

A very warm welcome to the new members who have joined us since Spring 2009:

René Aquarius, Mike Arakilo, Alberto L. Audenino, Sandro Domenico Badilatti, Samuel Basler, Johannes Dominik Bastian, Melanie Beaulieu, Maria Cristina Bisi, Conor Buckley, Fien Burg, Claudio Capelli, Paola Cárdenas, Ahmet Cilingir, Maria Soledad Commisso Cuñarro, Chiara Corsini, Daria Cosentino, Garrett Coughlan, Angela Chan, Jinju Chen, David Christen, Jose Alejandro Delgado Rangel, Jessica Deneweth, Loes Derikx, Danilo Dressano, Lina Espinha, Juan Fang, Paula Fernandes, Gion Fessel, Katharine Fraser, Ronaldo Gabriel, Eleni Grimpampi, Laurie Gumez, Marek Gzik, Joke Hendrix, Branislav Hucko, Mohamed Hussein, Jesu Christopher Joseph, Jukka Jurvelin, Piotr Kaczmarek, Paul Kalaitzidis, Noorfazreena Kamaruddin, Kiros Karamanidis, Igor Karsaj, Saeid Kasiri, Kristina Knezevic, Ingrid Knippels, Ines Kutzner, Leen Lenaerts, Yufei Li, Ralf Lichtenberger, Francisco J. Lopez-Valdes, Andrea Malandrino, Emilie Marchandise, Eric Markiewicz, Massimo Martorelli, Firas Massaad, David Mitton, Kieran Moran, Stefano Morlacchi, Thomas Mueller, Franck Nicoud, Toshiro Ohashi, Joaquín Ojeda, Ben Parslew, Giancarlo Pennati, Alberto Isaac Perez Sanpablo, Pavel Prokharau, Alfio Quarteroni, Carlos Quental, Abdel Rahmani, Alberto Redaelli, Marta Ribeiro Barroso Dias, Abel Rouboa, Silvia Schievano, Friederike Schulte, Ali Sharifnezhad, Denise Soares, Rita Stagni, Harald Studer, Luca Tersi, antonia torcasio, Gianluca Tozzi, Jef Vanderost, Ivanka Veneva, Philippe Vezin, André Vieira, Vinzenz von Tscherner, Daan Waanders, Peter Westerhoff, Andreas Wirth, Houman Zahedmanesh, Qinghang Zhang

## MEETINGS:

### ENDORSED MEETINGS:

*EUROPEAN SOCIETY OF BIOMECHANICS MEMBERS RECEIVE A REGISTRATION DISCOUNT OR EQUIVALENT FOR ALL MEETINGS ENDORSED BY THE ESB*

**New advances in biomechanics for virtual human modelling:** A minisymposium organised as a part of the next **International Conference on Advances in Mechanical Engineering and Mechanics (TSS ICAMEM 2010)** in **Hammamet, Tunisia, December 18-20, 2010**.

The goal is to make a step forward in virtual human modelling, the prediction and the prevention of injury risks. Applied researches may concern various fields such as crash safety, sport accidents and protection

devices, ballistic injuries and protection devices, as well as blast injuries and protection devices. Your contribution should be submitted online using the conference website (<http://www.icamem2010.org/>)

following the instructions in the template file. A special rate is offered for ESB members who would like to attend the mini symposium. Don't forget to mention that you are as ESB member and you will receive your two night stay in the 4 star El-Mouradi hotel, where the conference is to be held.



### BIOSPINE 3: 3rd International Congress of Biotechnologies for Spinal Surgery:

The 3rd International Congress of Biotechnologies for Spinal Surgery, BIOSPINE 3 is going to be held, 1–4 September, 2010. BIOSPINE 3 is being organized by STEGA (Skeletal Tissue Engineering Group Amsterdam) on behalf of REGENERATE (Regenerate – European Network for Regenerative Medicine EEIG). Barend J van Royen is the Chair and Hans Jörg Meisel is the Co–Chair of BIOSPINE3. Max Aebi, Cody Bunger, Marinus De Kleuver, Frank Emmrich, Timothy Ganey, Robert Gunzburg, Dietmar Hutmacher, Daisuke Sakai, and Hans-Joachim Wilke have agreed to be on the advisory board of the Congress.

Some of the topics which will be addressed in BIOSPINE3 are cellular therapies, application for growth factors, regeneration and degeneration of intervertebral disc, embryonic, pluripotent and adult stem cells, skeletal application of polymeres, spinal cord repair, and cellular repair strategies. This conference is pointedly broad in scope and designed to include scientists and medical experts as well as manufacturers.

#### Conference Office

Congrex Deutschland GmbH  
Potsdamer Platz 11, 10785 Berlin, Germany  
Tel.: +49 (0) 30 – 25 89 46 28,  
Fax: +49 (0) 30 – 25 89 41 00 e-mail:  
[biospine@congrex.com](mailto:biospine@congrex.com) [www.congrex.com](http://www.congrex.com)

#### Conference Venue

VU University medical center (VUmc) De Boeleaan  
1117, 1081 HV Amsterdam  
The Netherlands

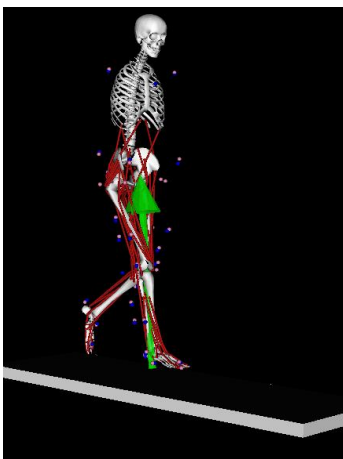
#### For more information on the BIOSPINE3 visit

[www.biospine.org](http://www.biospine.org).

#### Analysis and simulation of human motion:

An exciting multidisciplinary research program 'Analysis and simulation of human motion', in Leuven (Belgium) on September 13<sup>th</sup> – 15<sup>th</sup>, 2010. This symposium is sponsored by IUTAM (International Union of Theoretical and applied Mechanics).

As participation to this symposium is by invitation only and the number of participants is limited to 100 persons, we invite you to notify us ASAP of your interest. Please see the conference website for more details <http://www.mech.kuleuven.be/iutam2010>.



### 18<sup>th</sup> European Orthopaedic Research Society Annual meeting 2010:

June 30 - July 2, 2010,  
Davos, Switzerland  
[www.eors2010.org](http://www.eors2010.org)

The **EORS 2010** aims to:

- **advance** the scientific basis of the traditional EORS core topics.
- **strengthen** the links between industry, research and the clinic.
- **connect** research with current orthopaedic clinical problems to produce more translational research. Reduced fees for EORS members, sister societies (ESBiomechanics and ESBiomaterials) and early birds.

#### International Conference on Orthopaedic Surgery, Biomechanics and Clinical Applications:

Brunel University, West London, June 6-9, 2010  
[www.brunel.ac.uk](http://www.brunel.ac.uk)

**Brief introduction:** The Brunel Orthopaedic Research and Learning Centre is organising an international conference on Orthopaedic Surgery, Biomechanics and Clinical Applications which will take place at Brunel University, West London from June 6 to June 9, 2010. The conference program consists of five major areas as Biomechanics, Surgery, Biomaterials, Devices and Implants. The conference will incorporate different aspects of orthopaedic biomechanics, biomaterials, surgery and computer assisted surgery, simulation, robotics, haptics and devices. These will be subdivided into the upper limb, lower limb and spine.

<http://www.brunel.ac.uk/about/acad/sed/conf/obcas>

#### OTHER CONFERENCES OF INTEREST:

**VPH2010 - first VPH Conference: Call for Papers**

**30 September - 1 October 2010**, Brussels, Belgium.

The Virtual Physiological Human Network of Excellence (**VPH NoE**) will hold the first of a series of VPH Conferences (VPH2010) on 30th September to 1st October, 2010. The first meeting will be held in Brussels, Belgium, and is supported by the European Commission ICT for Health / DG Information Society and Media.

The Virtual Physiological Human Network of Excellence is an umbrella project representing the Virtual Physiological Human Initiative set up by the European Commission with a budget of ~ 350 million Euros for the Framework 7 Program. The VPH NoE is also responsible for producing a '[VPH Vision and Strategy Document](#)' to inform the next calls for the VPH field for FP7, FP8 and for European large infrastructural actions.

The meeting on 30th September - 1st October will be dedicated to the VPH Initiative, bringing together key representatives from VPH groups, Industry and Clinics. The first meeting is designed to be a relatively small meeting up to a maximum of 200 participants



with high profile key speakers and will contain the very best of VPH research. Parallel sessions will be held on both days with proposed topics in five main themes; Organ Systems, Modelling Scales, Research Methodology, Application Domains and Data Access and Information Assurance. We anticipate increasing the size and scope of the VPH conference in subsequent years.

After the meeting, we will publish the best VPH2010 papers in [Interface Focus](#) in 2011. [Interface Focus](#) is a new themed journal of the successful [Royal Society Interface Journal](#). It currently produces 6 Focus issues per annum, as a "supplement" to [Interface](#). However, effective at the beginning of 2011, [Interface Focus](#) will become a free standing Royal Society journal and the VPH2010 issue will be one of its first publications.

- Submissions for posters or for oral presentations are welcome. Both kinds of submissions will be subject to the same reviewing process. Contributors are asked to submit abstracts rather than full papers. Submitted abstracts will be selected for inclusion in VPH 2010 by the VPH 2010 Programme Committee. Talks and posters will appear in electronic format on the conference web pages via the VPH NoE website. Authors invited to prepare full manuscripts for submission to [Interface Focus](#) will also need to adhere to a further schedule for submission and review; final copy will be required by 15th February 2011.

#### CONFERENCE THEMES

Contributions are invited in, but not limited to, the following areas and topics:

**Organ Systems:** Neuromusculoskeletal, Cardiovascular, Lymphatic and immunological, Dermatological, Respiratory, Endocrine-metabolic, Other

**Modelling Scales:** Population-organism modelling, Organism-organ modelling, Organ-tissue modelling, Tissue-cell modelling, Cell-molecule modelling

**Research Methodology:** Data management, Numerical methods and modelling tools, Experimental methods for models validation, Probabilistic and adaptive methods, ICT for integrative modelling, Multiscale visualisation and data processing

**Application Domains:** Systems physiology research, Systems Biology research, Screening, monitoring and diagnosis, Pharmacology and drug development, Medical devices design and testing, Model assisted planning and treatment, Mechanisms and models of disease

**Data Access & Information Assurance:** Ethics/Data privacy and security, Intellectual property rights, Accessing and sharing of medical data: technical, personal, legal and policy perspectives

#### Key Dates:

Early Bird Registration of Euro 280 by 31st July!

Deadline for abstract submission: **1st May 2010**

Authors Notifications: 30th June 2010

For further information and registration, please visit:

<http://www.vph-noe.eu/vph2010>

#### AT\_EQUAL: Advanced Technology for Enhanced Quality of Life

15th-18th July 2010, Iasi, Romania

<http://www.remedis.info/>

A revolutionary concept of scientific events. AT\_EQUAL is a multidisciplinary symposium bringing together technical scientists, life scientists, clinicians, for exchanging knowledge and ideas in the field of using advanced science for health care and improving quality of life, equity and equality of chances for elderly, disabled and assisted persons

#### AT\_EQUAL 2010 symposia

- Advanced technology in orthopedic surgery: robotics, navigation and novative implants
- Robotic surgery and endoluminal surgery
- Neuronavigation
- ReMedIs, Regenerative Medicine Iasi
- Battlefield medical robotics
- Robotic summer school

#### 23rd European Conference on Biomaterials

11<sup>th</sup>-15<sup>th</sup> September 2010, Tampere, Finland

<http://www.esb2010.org>

#### 34th Annual Meeting of the American Society of Biomechanics

Providence, RI USA August 18 - 21, 2010

[http://brown.edu/Conference/American\\_Society\\_of\\_Biomechanics/](http://brown.edu/Conference/American_Society_of_Biomechanics/)

#### ISN & COVER Workshop on Biomechanical experiments with human subjects

Hannover, Germany, September 14, 2010.

<http://www.ircobi.org/conference>

#### British Orthopaedic Research Society (BORS) Conference

Cardiff, Wales, UK. 12th-13th July 2010

<http://www.borsoc.org.uk/>

#### 6th World Congress on Biomechanics:

August 1-6 2010, Singapore

<http://www.wcb2010.net/>

#### International Society of Biomechanics XXIIIrd congress:

3<sup>rd</sup>-7<sup>th</sup> July 2011

<http://www.isb2011.org/>



## COUNCIL ELECTIONS

During the next General Assembly that will be held during our upcoming 17th Congress of the ESB in Edinburgh (UK), we shall have to elect a number of new members to the Council.

Hans Van Oosterwyck and Peter Zioupos completed their first term, and intend to stand for re-election. Marco Viceconti and Ralph Müller have served two full terms, and thus must step down. Hence, four Council seats in total are up for election; the Council thus invites any regular member in good standing to candidate for a seat on the Council of our Society. As our Society considers gender equality as an important aspect in the life of our community, we would particularly encourage women to candidate for these positions. Being an ESB council member is a great opportunity, both socially and professionally, which vastly pays back the effort that such serious commitment requires.

Those who are interested should send their full length CV, a 200-word biography, and a small picture, all in electronic format to the Secretary General [secretary.general@esbiomech.org](mailto:secretary.general@esbiomech.org) before 30<sup>th</sup> April 2010. All candidates will be posted on the Society web site so that all members can consult them. Candidates will also be presented by the President directly before the election ballot at the forthcoming General Assembly held in Edinburgh on July 7<sup>th</sup>, 2010.

## CONGRATULATIONS...

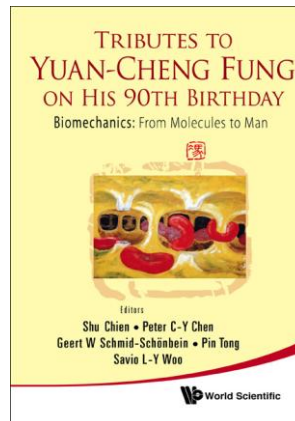
...to ESBiomech member Fergal O'Brien who received a prestigious European Research Council Starting Investigator Grant (Eur 2 million) which will support his laboratory over the next 5 years.

The ERC-funded research programme will build upon and consolidate his ongoing research but will additionally develop a new and novel programme of translational research in orthopaedic regenerative medicine which aims to move ever closer to the clinical arena. The research programme will be centred on the collagen-based materials developed over the past 5 years in his group but will incorporate cutting edge stem cell technologies, growth factor delivery, gene therapy and bioreactor technology which will translate to *in vivo* tissue repair. This translational research programme will be divided into four specific themes: (i) development of novel osteoinductive and angiogenic smart scaffolds for bone tissue regeneration, (ii) scaffold and stem cell therapies for bone tissue regeneration, (iii) bone tissue engineering using a flow perfusion bioreactor and (iv) *in vivo* bone repair using engineered bone and smart scaffolds.

It is great news for our society that Biomechanics research is obtaining this type of high profile funding.

## BOOK OFFER FOR ESB MEMBERS

QUOTE: \*BM35\* for a 35% discount



We are pleased to introduce a new title "Tributes to Yuan-Cheng Fung on his 90<sup>th</sup> Birthday" that may interest you. For a limited time, you can get your copy at a 35% discount from our online bookstore. Quote \*BM35\* as you order. This offer is valid from now till 30 August, 2010. Do recommend this important title to your library and colleagues.

**Yuan-Cheng Fung** has helped to establish the fields of aeroelasticity and biomechanics. He received the United States Presidential National Medal of Science in the year 2000, and the Founders Awards of the US National Academy of Engineering in 1998. He was elected a member of the US National Academy of Science in 1992, the US Institute of Medicine in 1991, the US National Academy of Engineering in 1979, the Academy of Sciences of China in 1994, and the Academia Sinica in 1966. He is Distinguished Alumnus of Caltech, Honorary Member of ASME, and winner of the von Karman Medal (ASCE), Timoshenko Medal (ASME), Poiseuille Medal (ISB), Borelli Medal (ASB), Landis Award (AMS), and Alza Award (BMES).

### Editors

**Shu Chien** (University of California, San Diego), **Peter C-Y Chen** (UCSD), **Geert W Schmid-Schönbein** (UCSD), **Pin Tong** (UCSD) **Savio L-Y Woo** (University of Pittsburgh)

This book is a tribute to Professor Yuan-Cheng Fung, the father of Biomechanics and a pioneer in Bioengineering, in honor of his 90th Birthday. The book consists of articles contributed by his colleagues, students, friends and family. These articles illustrate Professor Fung's profound influence on outstanding leaders in bioengineering, especially biomechanics, and on the life and work of all people who have been in contact with him. The scientific topics covered range from fundamentals of science and engineering (e.g., residual stress, flow dynamics, and cellular signaling) to clinical disorders (e.g., atherosclerosis, diabetes, and hypertension). The articles cover the whole spectrum of biological hierarchy, from genes/molecules to cells/tissues, and organs/systems, with close correlations between engineering and biomedical sciences. This book provides an excellent view of the marvelous contributions of Professor Fung as a Renaissance Man.

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<http://www.worldscibooks.com/engineering/7531.html>

to enjoy a 35% discount from now till 30 August 2010.

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