



European Society of Biomechanics

# Newsletter

March 2006

Editor: Dr. Hans Van Oosterwyck Editorial Office: Division of Biomechanics and Engineering Design, K.U.Leuven, Celestijnenlaan 300C, 3001 Leuven, Belgium E-mail: [hans.vanoosterwyck@mech.kuleuven.be](mailto:hans.vanoosterwyck@mech.kuleuven.be)

---

## ESBIOMECH.ORG your gateway to biomechanics

**Keita Ito, President of the ESB**

On November 8, 2005, the new website of the European Society of Biomechanics, [www.esbiomech.org](http://www.esbiomech.org), was officially launched. The ESB Council has spent a lot of time and effort on developing a website that provides a substantial number of new functionalities and services to our members. We have noticed that many members have already found their way to the new website, which we believe will become the true Information Centre of the Society. For those who did not find the time yet to go through all the pages of the new site, we encourage you to do so and to have a look at all the new functionalities.

Thanks to the new website all membership services (applications, fee payments, etc.) will now be managed electronically; which will drastically improve the quality of the membership services.

You will be able to monitor your personal subscriptions to journals, to find all facts of our Society, to know immediately about new awards and grants the Society promote, and to know all about our summer workshops, biennial conferences, and related publications.

Students will find a special space entirely dedicated to them, with useful resources for the development of their careers; other national or regional Societies of Biomechanics in Europe will find all information on our affiliation and liaison programs.

The web site will host an array of discussion forums, launched and moderated by members that want to discuss specific topics with their peers. These forums can be found on <http://www.esbiomech.org/Forums/>

and will replace the ESB\_forum list ([esb\\_forum@yahoogroups.com](mailto:esb_forum@yahoogroups.com)), which was founded on November 21, 2002. As the ESB\_forum list will be closed, we would like to encourage our members to post any issues, relevant to our Society, on the forums of the new website. At the same time, the Council will regularly post Society news through these forums. Apart from a general forum on Society related issues, there are also forums on website troubleshooting, job opportunities and a thesis forum, where student members can announce the on line availability of their master or PhD thesis.

While we shall continue to distribute our periodic newsletter, the web site will become the main source of news related to biomechanics, and you will be able to find very quickly all the information you need. So far a hard copy of the Newsletter has been distributed to all our members. With the launch of the new website, where all information is kept central and easily accessible, we were wondering whether it is still necessary to send each member a printed version of the Newsletter. Instead, it may be more opportune to switch to a web only version. Obviously, your opinion is crucial here, and therefore we want to organise a poll (see form included) as to whether you prefer a printed version of the Newsletter (in addition to a web version) or a web version only.

Being a resource for our members in good standing we have restricted the access to most resources to the ESB members. By now, you should have received an email message with your username and password. If you did not receive it, please go to the webpage <http://www.esbiomech.org/Account/forgotPassword>

and type your surname in one word (e.g. 'Vander Sloten' will become 'VanderSloten'). An email will automatically be sent to you with your password. If you do not receive an email within 10 minutes, please send an email to [webmaster@esbiomech.org](mailto:webmaster@esbiomech.org). You will then receive an email with your username and password.

If you have received your login information but do not know how to use it, please read the FAQ at this link: <http://www.esbiomech.org/Html/15>.

If you want to join our Society simply go to this page and fill in your application: <http://www.esbiomech.org/OnlineApplication>.

Of course, making the transition to on line services only, it means that it is of vital importance to have a correct email for all our members. Unfortunately a few

members failed to keep us updated about their email changes over time. On December 13, 2005, Marco Viceconti, our Secretary General, sent out an email with Membership Status as subject heading. If you did not receive this email, it is likely that the Society does not have your proper email. In this case please send an email to Marco Viceconti ([secretary.general@esbiomech.org](mailto:secretary.general@esbiomech.org)) as soon as possible.

Last but not least, we hope you will find your way to the new website and enjoy its functionalities. Of course, if you have comments or suggestions to improve certain aspects of the website, you are invited to contact us. It may be a nice opportunity to make use of the discussion forums...or alternatively send an email to [webmaster@esbiomech.org](mailto:webmaster@esbiomech.org). We hope to hear from you very soon!

---

# Fifth World Congress of Biomechanics

## Incorporating the 15<sup>th</sup> conference of the ESB

### Munich, July 29 - August 4, 2006

This year the biannual meeting of the European Society of Biomechanics will be incorporated into the World Congress of Biomechanics (WCB), which will be hosted by Prof. Dieter Liepsch (Munich University of Applied Sciences), former member of the ESB Council (1996-2000). More information can be found on the congress website (<http://www.wcb2006.org>).

The ESB will jointly organise a number of research tracks. Besides, as the ESB is celebrating its 30<sup>th</sup> anniversary this year, the proceedings of the first ESB conference (held in Brussels on May 24-25, 1978) will be made available to all our members at no cost. Importantly, ESB members receive a discount of 20 euros when registering for the WCB.

During the congress the ESB will hold its General Assembly, during which a number of new members to the Council will be elected. Four Council seats in total

are up for election. The Council invites any member in good standing to present himself or herself as a candidate to serve on the Council of our Society.



Our Society considers gender equality as an important aspect in the life of our community; since the remaining members of the council are all males, we would particularly encourage female candidates for this position.

Those who are interested should send their full length CV, a 200-word CV, and a small picture all in digital format to the Secretary General before 30 May 2006 ([secretary.general@esbiomech.org](mailto:secretary.general@esbiomech.org)). All the candidates will be posted on the Society web site so that all

members can consult them. Candidates will also be invited to give a brief electoral talk at the forthcoming General Assembly just before the election ballot.

---

# First ESB Thematic Workshop

Leuven, August 2005

Hans Van Oosterwyck, K.U.Leuven, Leuven, Belgium

The First ESB Thematic Workshop was organised in Leuven from August 28 to August 30, 2005 in Leuven, Belgium, and was chaired by Jos Vander Sloten and Hans Van Oosterwyck from the Division of Biomechanics and Engineering Design, K.U.Leuven. The decision to organise summer workshops in between the biennial meetings was taken at last General Assembly during the 14th European Society of Biomechanics conference ('s-Hertogenbosch, the Netherlands). These workshops would be focused on contemporary topics, important to biomechanics research. The first workshop was devoted to Mechanobiology of Cells and Tissue Regeneration and was structured around four main topics:

- Cellular mechanotransduction
- Mechanobiology of tissue engineering
- Computational modelling of cells, tissues and tissue regeneration
- In vivo and ex vivo models of tissue regeneration

The goal of the workshop was to bring together the most recent developments in this fascinating and fast growing research field. At the same time it had to be appealing to both senior and junior researchers, with plenty of time for discussion in an informal and open atmosphere. Finally it was felt to be important to have a good balance between contributions on computational work and experimental work, and to create an interesting mixture of biology-oriented and mechanics-oriented presentations.



*Arenberg Castle, venue for the Workshop*

The Workshop was organised in eight subsequent sessions (no parallel sessions) of about one and a half to two hours: 'Cellular mechanotransduction' and 'Mechanobiology of tissue engineering' each filled two sessions, one session was devoted to 'In vivo and ex vivo models of tissue regeneration' and the remaining three sessions were focused on 'Computational modelling'. Each session started with

a keynote lecture, with the number of keynote lectures being equally distributed among the four topics:

- Dan Bader, Jenneke Klein-Nulend (Cellular mechanotransduction)
- Alicia El Haj, Ivan Martin (Mechanobiology of tissue engineering)
- Carlijn Bouten, Patrick Prendergast (Computational modelling of cells, tissues and tissue regeneration)
- Allen Goodship, Keita Ito (In vivo and ex vivo models of tissue regeneration).



*The city hall of Leuven*

The rest of the sessions consisted of contributed papers. In total 34 contributed papers were accepted for oral presentation. In addition a small poster display was arranged (9 posters), which could be viewed during the coffee breaks. Each day ended with a breakout session, where a number of issues that were addressed during the oral sessions, were further discussed. A total of 82 participants, coming from 16 different countries, registered for the Workshop.

The meeting venue was the campus of Engineering Science, located a few kilometres outside the city centre. The lectures took place in two historical buildings, namely the Arenberg Castle and the Campus Library. The inner square of the Castle was also the location for the welcome reception, during which the participants could enjoy cheese and (of course) Belgian beers. Other social activities were the guided tour through the city centre and the workshop dinner, which were all included in the registration fee.

In conclusion it was felt that the Workshop succeeded in bringing together scientists from different disciplines, which resulted in a well balanced programme, giving equal importance to computational and experimental mechanobiology, where mechanics and biology are truly integrated.



---

# XXth Congress of ISB

## Cleveland, August 2005

### Marco Viceconti, Secretary General of the ESB

The XXth Congress of the International Society of Biomechanics, incorporating the 29th Annual Meeting of the American Society of Biomechanics was held between July 31 and August 5, 2005, in Cleveland (OH), USA. The conference organised by Brian Davies, Ton van den Bogert and by a number of other colleagues was hosted by the Cleveland State University, which provided ideal infrastructures. All sessions were within two buildings very close to each other, which made it possible to switch session quickly.

The program was well designed with relevant plenary lectures and balanced parallel sessions. ISB remain a society strongly oriented to human movement (not surprisingly, the beautiful logo of the conference is a skeleton flying in a karate kick). However, in a number of sessions it became evident that also this community is moving toward an integrative vision of biomechanics that use multi-body dynamics, solid mechanics, tissue mechanics, etc. to build a full understanding on human biomechanics.

This was particularly evident in the mini-symposium organised by Serge Van Sint Jan and Alison Arnold, for the ISB Technical Group 3D Analysis of Human Movement. A number of speakers stressed, from very different perspectives, the need for this integrative approach to solve major challenges. For me this has been the main message to take home from this conference.

Cleveland may not be the most beautiful town in the world, but the organisers made any effort to make it attractive. Supported by a sunny (but hot) weather, many events were held open air, which was a nice relief to the super-cold air conditioning typical of US public buildings.

I found particularly enlightening the plenary lecture given by Bruce Latimer, who explained from an evolutionistic perspective the differences between the skeleton of the 3.2 million years *Australopithecus Afarensis* (nicknamed "Lucy") and that of the *Homo Sapiens*. Bruce uses biomechanics as a fundamental tool to investigate the relation between shape and function, and how this relation changed over human evolution.

Europe was honoured by the assignment to Rik Huiskes (Eindhoven University of Technology), of the Muybridge Award, and by the election to the chair of

President-Elect of Walter Herzog who, while working in Canada since many years, maintains solid links with his home country, Switzerland, and with Europe as a whole.

The rest was fun (the rock band who was playing at the banquet was called the *Iliotibial Band*), the joy of meeting old friends, and young researchers with great enthusiasm and a lot of great ideas. We all left with a promise: see you in Munich, next year!



Conference co-chair Ton van den Bogert presents the Organising Committee during the opening ceremony

---

## ESB Liaison committee: from Germany to Greece...

### Jos Vander Sloten, ESB Liaison Committee Chairman

The aim of the ESB Liaison Committee is to establish constructive working relations with other societies and scientific organisations in the areas of biomechanics, biomaterials, tissue engineering and biomedical

engineering in general. The added value of such collaborations can be seen both politically (e.g. awareness rising) and scientifically (co-organisation of scientific events, project collaborations). Committee

members are Jos Vander Sloten (chair; Leuven, Belgium), Gabriele Dubini (Milan, Italy), Lutz Dürselen (Ulm, Germany), Cees Oomens (Eindhoven, The Netherlands), Christopher Provatidis (Athens) and Merab Svanadze (Tbilisi, Georgia) At the same time members serve as correspondents for the *ESB Newsletter* and inform on biomechanics R&D in their country or in their organisation. In this issue we welcome contributions from Prof. Lutz Dürselen and Prof. Christopher Provatidis, who give an overview on the biomechanics activities in Germany and Greece respectively.

## **Biomechanics in Germany**

### **Introduction to the German Society of Biomechanics**

*Lutz Dürselen, University of Ulm, Ulm, Germany*

**DGfB**

Deutsche Gesellschaft für Biomechanik e.V.

In 1997, the German Society of Biomechanics DGfB was founded in Ulm.

Biomechanists from the different fields of biomechanics (Medicine, Sports, Engineering) came together with the common goal of integrating their different fields into one society. While most of the international societies emphasize one of these fields, the German Society strives to be an interdisciplinary organisation.

The aim of the society, which is open especially to the German speaking community, is to promote the science of biomechanics in biology, medicine, veterinary medicine, and sports. In particular, the society's main activities involve the organization of meetings, which allows the exchange of experience and knowledge between scientists from different disciplines, who work on biomechanical questions. Through these meetings, the society also tries to foster the education of young researchers. At present, the society has 236 members from a broad spectrum of disciplines. Fifty-four work in an engineering environment, 99 in a clinical setting, sixteen in industry, six in academic departments of anatomy, and fifty-three in sports science departments. Besides industrial research facilities there are at least twenty institutes and laboratories that significantly contribute to biomechanical research in Germany, Switzerland, and Austria. The society's council includes president, past president, designated president, treasurer, and secretary. Our current president is Prof. Dr. Gert-Peter Brüggemann, who is director of the Institute of Biomechanics and Orthopaedics at the German Sport University of Cologne. Previous presidents have included Albert Gollhofer (sports scientist), Felix Eckstein (anatomist), and Michael Morlock (mechanical engineer). The list of previous presidents is an indication of the interdisciplinary idea: the

presidency is usually rotated between one of the 3 different biomechanics fields (Medicine, Sports, Engineering) to support the founding idea.

Since 1999, the society has been conducting biannual meetings usually hosted by the acting president. The last meeting, e.g., which was held in Hamburg, had 210 participants, contained sessions on tissue engineering, joint and joint replacement biomechanics, spine biomechanics, sports biomechanics and motion analysis, and fracture healing and bone. In two additional sessions the best paper and young researcher awards were chosen. A precourse on different topics for young researchers is arranged before each meeting, involving such topics as statistics, numerical methods in biomechanics, how to publish papers and others, presented by invited experts. One hundred ten young scientists attended the last precourse in Hamburg.

The society maintains a website in German language containing information on all society matters ([www.biomechanics.de/dgbiomech](http://www.biomechanics.de/dgbiomech)). A job listings site for available positions in the biomechanical field has proven to be quite successful. There is also a list of biomechanics institutions and labs in Germany, Austria and Switzerland with the corresponding Internet addresses.

## **Biomechanics and biomaterials activities in Greece**

*Christopher Provatidis, National Technical University of Greece, Athens, Greece*

Biomechanics is a quite new field in Greece, thus it is not so easy to form a detailed picture of it. The present report, not being a thorough review, aims at describing the current status of Biomechanics in Greece. The plethora of scientists, institutions and research centers active in Biomechanics does not allow for a detailed reference to each and every one of them. For this reason, a more general approach is chosen, with names being only indicatively referred. The activity in Biomechanics can be divided in two large categories, the former being the university level and the latter being the non-university level. In both categories, numerous contributors can be found.

On a university level, the 'Laboratory of Biomechanics and Biomedical Engineering' of the University of Patras, Department of Mechanical and Aeronautical Engineering, is de jure referred first, since it was the first to be established in the early '80s. It is directed by Professor Y. Missirlis and the activities of its members include cell mechanics, biomaterials as well as hard and soft tissue biomechanics. Furthermore, the 'Laboratory of Material Testing' in the same Department brings in its

complete meaning the word 'biomechanics' and has significantly contributed in helmet testing and design.

Moreover, the Department of Medicine at the University of Patras has a long history and a significant contribution in the biomedical studies in Greece, among which the establishment of two interdepartmental-interuniversity programs of postgraduate studies should be mentioned. In more details, the first program is in the field of Medical Physics. The second program, related to Biomedical Engineering and attended annually by almost twenty graduate students, was established in 1989 by Professor (Emeritus) B. Proimos and since his retirement it has been directed by Prof. N. Pallikarakis (University of Patras) jointly with representatives from the Mechanical Engineering and Electrical Engineering Schools at NTUA (Professors S. Tsangaris, D. Koutsouris, D. Giova, K. Nikita, C. Provatidis). The specific program has three directions, the first being clinical mechanics, the second being bioinformatics and the third being biomechanics, while the topics of biomaterials, computational biomechanics, biofluids, human motion and rehabilitation are taught, among others.

In addition, the Faculty of Medicine of the School of Health Sciences of the National and Kapodistrian University of Athens, which is the oldest University in Greece, has material testing facilities for bone strength and a certain number of guinea pigs are available in the Laboratory for the Research of Musculoskeletal System (Prof. G. Lyritis), where studies are focusing on osteoporosis treatment. Apart from that, Athletic Biomechanics has grown at the Faculty of Physical Education and Sport Science at the University of Athens.

Furthermore, the Medical School of the Aristotle University of Thessaloniki has significant experience both in the indentation of vertebrae and in the respective finite element modeling. As dental mechanics is another area that has attracted the interest of medical doctors and engineers, the aforementioned School has its own distinguished activities both in orthodontics and in dental implants. In addition, Athletic Biomechanics has also grown at the Department of Physical Education and Sport Science at the Aristotle University of Thessaloniki.

The School of Medicine of the University of Ioannina and the School of Health Sciences of the University of Thessaly also demonstrate important research work in biomechanics. At this point, it should be emphasized that there are several researchers, positioned in teaching hospitals such as that of the University of Ioannina and that of the University of Thessaly, that have developed profound research activities in biomechanics. Apart from the School of Medicine, isolated engineering activities in biomechanics can be found in other Departments of the University of Ioannina as well.

Within the last years, the National Technical University of Athens (NTUA) has developed a remarkable activity in both testing and simulating biomechanical structures. Concerning testing of biomaterials, the Laboratory for Testing of Materials at the School of Applied Mathematics and Physics has



a remarkable experience in cadaveric experiments, for example in spine mechanics. Moreover, the School of Mechanical Engineers at NTUA has a remarkable activity in the use of computer methods (finite elements, finite differences, finite volumes and boundary elements) in biomechanics, as well as in integrated CAD/CAM/CAE systems, biomaterials and control systems issues. So far, the aforementioned methods have been successfully used in the simulation of orthodontic tooth movement based on mechanical models of the periodontal ligament, preoperative planning for

dental implants, analysis of craniofacial changes such as rapid maxillary expansion, total hip arthroplasty related to biomaterials such as ceramic and customized design, osteoporosis in vertebrae, calcaneal osteosynthesis, blood flow, stent design, heart motion simulation and analysis. There are also activities related to medical physics, radiopharmaceuticals and similar, EMG research for handicapped, as well as design and construction of medical operation simulators. The School of Electrical and Computer Engineering at NTUA has developed remarkable research activities in biomedical engineering such as medical image analysis, software for medical scanners, instrument design, lasers and optics, electrical behavior of blood, biomagnetism, as well as bioinformatics and electronics, among others.

---

Important research activities also take place in Technological Educational Institutes. For example, the School of Applied Sciences (Technological Educational Institute of Athens) has certain activities in medical imaging techniques including brain behavior, while the Department of Electronics (Technological Educational Institute of Piraeus) is active both in biometrics and in medical image and signal processing.

On a non-university level, there are several centers active in biomechanics. In more details, there is a National Centre (EKEVYL) which deals with testing of medical materials and offers certifications, while there is a private laboratory dealing with similar subjects as well. On top of that, the National Institute for the Rehabilitation of Handicapped, sited in Ilion area close to Athens, includes the 'Biomedical & Rehabilitation Engineering Unit' with spine motion analysis facilities and activities related to the fabrication and fitting of prosthetic and orthotic systems. Furthermore, the Hellenic Society for Disabled Children (ELEPAP), located in Pangrati – Athens, is a non-profit non-governmental organisation founded in 1937, with the initiative of private individuals and with the support of the Rotary Club of Athens and the Near East Foundation, to provide support, diagnosis, healthcare, therapeutic and educational services, in one word rehabilitation, to physically disabled children in Greece from birth to 16 years of age. Finally, considerable research activities

are conducted by the Greek Society of Biomaterials, many members of which are dentists, orthopedists and chemical engineers.

Concerning professional biomechanical activities, there are a few small companies located in Athens, Volos, Larissa, Thessaloniki and elsewhere. Among others, it is possible to mention a company of contract research and RTD character, authorized representatives of medical image software, who also offer consultancy for customized preoperative treatment planning, spin-off companies promoting their patents in osteosynthesis, developers of specific software for data extraction from X-ray and panoramic images, manufacturers of hip implants, designers and manufacturers of medical pumps, developers of software in bioinformatics, and many commercial companies with high turnovers which import implants and other medical accessories from all over the world.

Last, but definitely far from least, the Academy of Sciences in Athens supports research activities, such as the experimental biomechanical behavior of tissues, among which experimentation on a collection of guinea pigs in well-controlled rooms is also included. It is evident that Biomechanics in Greece, although a quite new field of almost 25 years of age, is an area of significant activity, not only limited within the universities, and its growth in both the public and the private sector seems to be very promising.

---

## **New ESB Student Network**

### **Damien Lacroix, ESB Student Committee Chairman**

Student membership is a new type of membership created in 2004 and therefore this member category is still quite small in number. In order to provide better services to student members and to attract more students to become member, a student section was developed on the web site of the ESB ([www.esbiomech.org](http://www.esbiomech.org)). In this section you can find a list of biomechanical laboratories with ESB members, a list of resources on research public funding, and a list of press-release about working / research opportunities.

In order to provide better services to ESB Student Members, an ESB Student Network initiative was launched. The aim of this initiative is to establish a structure mainly managed by voluntary ESB student members and coordinated by the ESB Student Committee Chairperson to promote the student activities of the ESB and the services offered by the ESB. After a call to all ESB student members, six

people responded favourably and are not forming part of this network: Matthieu De Beule (Belgium), Lies Geris (Belgium), Bijay Giri (Japan), Benham Heidari (Ireland), Sebas Idelsohn (Spain), Rita Rocha (Portugal).

For the moment, the network will work on the following areas:

- Develop the biomechanics lab list in the website into something more complete and useful
- Organize a mini-event at the next World Congress of Biomechanics
- Provide more information online
- Create and participate in specific sections of the forum
- Work on a mentoring programme

You will see in the coming months new information and services available to ESB student members. If you wish to participate in this network and act as a local

contact point, please contact me. You could provide to other students and future students valuable information based on your personal experience, needs, and geographical location.

If you are a member of the ESB, I suggest you to inform your students of this initiative and encourage them to become student members of the ESB.

## SOCIETY NEWS

### Council meetings

*Below is a summary of the most important decisions taken during the past two Council meetings.*

*Berlin, Germany, on April 15, 2005*

Student membership is a transient status, which is interrupted when the member informs the Council about the end of his or her studies, or automatically after 4 years of student membership.

Direct-One or Paypal will be adopted as start up solution for electronic payments of membership fees.

*Lausanne, Switzerland, on January 20, 2006*

The European Society of Biomechanics is registered as an association at the Court of Illkirch-Graffenstaden, Strasbourg, under the provisions of Articles 21-79 of the local Civil Code as enacted by French Law introducing the Civil Code, 1st June 1924. The Council discovered that the ESB incorporation requires a revision procedure to maintain its legal existence. After some legal advise, the Council decided to retain the "siège sociale" in France and to work with a French lawyer to decide the exact procedure required to consolidate the ESB incorporation.

The Council decides to revise the membership application procedure, by having the Secretary General formally proposing any new member to the Council for approval, asking the Membership Committee Chairperson to second such proposal, and invite the Council members to express any disagreement. If at least one Council member expresses disagreement, the application is brought to the Council meeting where the final decision is taken with the ordinary procedure. If the Council approves the membership application the applicant receives full member rights except voting rights that are area granted only after the next General Assembly ratifies the Council decision.

The Council appoints the members of the award committee that will assign the various ESB awards at the forthcoming WCB/ESB meeting in Munich. The candidate to the award will be requested to submit a one-page abstract for extensive evaluation.

The Council appoints Keita Ito, Damien Lacroix and Marco Viceconti to represent the ESB at the General

Assembly of the Division of Societies of the European Alliance for Medical and Biological Engineering and Science (EAMBES).

The Council unanimously approves the proposal of Prof. Prendergast to organise the ESB workshop 2007.

The bids for ESB2010 will be presented at WCB2006, to provide the organisers with 4 years lead time for organization.

ESB Anniversary celebrations will take place during the World Congress in Munich. The ESB student lunch will be held in one of the lunch breaks.

The Council will submit to the General Assembly a request for Bylaws modifications to include a new membership class called corporate membership.

### New members

In 2005 we have had the pleasure of welcoming 44 new ESB members. Among them, 25 have joined the ESB as a full member: Redouane Fodil (France), Daniel Isabey (France), Beatrice Labat (France), Bruno Louis (France), Emmanuelle Panus (France), Mustapha Zidi (France), Heiner Baur (Germany), Anita Ignatius (Germany), Thomas Pressel (Germany), Ujjal Bhanu Ghosh (India), Raphael Bartalesi (Italy), Dario Gastaldi (Italy), Franco Maria Montevecchi (Italy), Pasquale Vena (Italy), Rommel Bacabac (The Netherlands), Sander, Kranenbarg (The Netherlands), Ana Alonso Vazquez (Spain), Sigbjorn Olsen (Switzerland), Ruth Mayagoitia-Hill (United Kingdom), Andrzej Przybyla (United Kingdom), Philip Riches (United Kingdom), Easson William (United Kingdom), Leonidas Alexopoulos (United States), Damien Bennet (Ireland).

Furthermore, 19 student memberships have been approved: Clara Sandino (Spain), Alejandro Meza (Chile), Celine Croce, (France), Sophie Fereol (France), Yann Marchal (France), Heiko Stark (Germany), James McGarry (Ireland), Meir Max Barak (Israel), Riccardo Gottardi (Italy), Ilja Redruchin (Lithuania), Daniel Suarez Venegas (The Netherlands), Piotr Kaminski (Poland), Rita Santos Rocha (Portugal), Ramiro Gonzalez (Spain), Martin Koch (Spain), Arzu Tasci (Switzerland), Nick Caplan, United Kingdom, Federico Formenti (United Kingdom), Sandhya Meghji, (United Kingdom), Constantinos Zervides (United Kingdom).



---

# Newsletter Poll

With the launch of the new website the ESB has made the transition towards a 'web-based Society', in which all services are offered on-line only. Therefore we would like to know your opinion whether you would still prefer to receive a printed version of the Newsletter (apart from the digital version which will

be made available through the website), or whether the on-line version would be sufficient. Please fill out the form below and fax it to +32 16 327994, or alternatively, go to <http://www.esbiomech.org/NewsletterPoll> and fill out the on-line form.

## Membership information:

Name: .....

First name: .....

Institution: .....

Country: .....

## Please indicate your choice:

- I prefer a printed version of the Newsletter (in addition to the on-line version)
- I prefer an on-line version only (no printed version)

**Filled out forms must be faxed to Hans Van Oosterwyck, Newsletter editor (+32 16 327994) before April 30, 2006.**

An on-line version can be found on <http://www.esbiomech.org/NewsletterPoll>. Please return only one form.

---