



European Society of Biomechanics Newsletter

Autumn 2007

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MISSION AND VISION OF THE ESB: SOME THOUGHTS TO OPEN THE DEBATE

Marco Viceconti - President of the ESB

Recently, I have been wondering on the usefulness of scientific societies in the 21st century. Of course this question is merely speculative; the fact that I have

been serving the ESB for the last five years indicates that at least at the personal level the answer is clear. But I believe it is healthy for any type of community to verify its own scope once every while.

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Another way to put it is to ask us, what are the duties of a scientific society nowadays? What are the services a scientific society can provide that its membership is asking for?

One possible attempt to answer these questions is to try defining the mission and the vision of our organisation. The mission is the purpose of an organisation, its ultimate scope, the reasons of its existence, and at the same time what makes it different from all the other organisations. The vision is a projection of the future of the organisation that reflects its ideals, its values, and its ambitions, set the objectives and promote the action.

A mission statement should answer to three fundamental questions:

- *Who are we?*
- *What do we want to do?*
- *Why we want to do it?*

Some examples of mission statement: "To make people happy" (Walt Disney Corp.); "to give ordinary folk the chance to buy the same thing as rich people" (Wal-Mart); "To enable people and businesses throughout the world to realize their full potential" (Microsoft Corp.).

So, starting from the statute of the ESB, which says: "The objectives of the Society are to encourage, foster, promote and develop research, progress and information concerning the science of biomechanics" we might try to work out our own mission statement, right? But this is not as easy as it might sound.

In example: how do we deal with the European dimension? Is this a value, or is this an accident? If I propose a mission statement "to make Europe the world leader in Biomechanics research" how would you feel? I am quite sure that the majority of our membership would not like such a mission statement, as it tends to embrace a competitive vision of the world that many consider incompatible with the deep nature of scientific research. Thus, for the same reason we welcome members from all over the world and not only from Europe, I guess we can say that being European is not a value in itself for our society.

Another problem is do we want to promote the research, or its outcomes? In other words, are we more interested in the process or in the result? Intellectual honesty would probably bend us on the first, but social ethics should bend us on the second, I guess.

What is research? A nice definition is "a truth-seeking activity which contributes to knowledge, aimed at describing or explaining the world, conducted and governed by those with a high level of proficiency or expertise". Under this definition, and (see *overleaf*)

considering that biomechanics belongs to the physics sciences that aim to explain the world rather than merely describe it, we could say our goal is to explain that portion of the world we call biomechanics.

“Explaining biomechanics” is a nice mission statement; it echoes the importance of communicating the results of the research, including teaching that is so important for many of our members. Although I have to admit that “*discovering biomechanics*” rings more the childish amazement I always associated to research.

This mission statement says we are biomechanics researchers, we want to discover biomechanics, and we do it for the sake of it. This last point is very important, in my opinion. It is time we stop to pretend an opportunistic role for scientific research, and we return to claim that increasing the knowledge of the world is a value by itself, that does not need any additional value to be justified.

Now the vision. Microsoft vision statement in the 80's was “a PC in every home running Microsoft software”. Nokia vision in 2005 was “Life Goes Mobile”. Usually, the mission of an organisation does not change, while the vision needs to be re-defined periodically to align the organisation with the current challenges.

A key step in defining the vision is to understand what the stakeholders (e.g. you, our members) value most about how your organization will achieve this mission. If possible these priorities should be expressed in Specific, Measurable, Achievable, Relevant and Timebound ways.

If our mission is discovering biomechanics, this can be decomposed in a certain number of core activities:

- *Educate the new researchers*
- *Upholding professional ethical values*
- *Provide them with the resources required*
- *Sustain scientific truth-seeking processes*
- *Favour the dissemination of the knowledge*
- *Promote the carrier by merit*

This list is quite arbitrary and probably has omissions and disputable inclusions; obviously, every scientific society can contribute to these activities only in complementary and somehow marginal ways. Nevertheless, it is important that we debate on which of these activities the society should focus its attention, to define what our preferred future is.

I do not have the answers, not even in a tentative form. But I believe we should develop some consensus on this matter within the ESB membership. Because of this, I shall ask the Council to develop an action plan aimed to establish this consensus, fundamental to the definition of the society vision for the next few years.

In the meanwhile I would appreciate to hear from all of you on this argument; please write me at President@esbiomech.org.

Marco Viceconti
President of the ESB

REPORT ON ESB WORKSHOP 2007

FINITE ELEMENT MODELLING IN BIOMECHANICS AND MECHANOBIOLOGY

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

The European Society of Biomechanics International Workshop on Finite Element Modelling in Biomechanics and Mechanobiology took place from 26th to 28th August 2007 at Trinity College Dublin.

The Workshop Chair was Prof. **Patrick Prendergast**, and the Programme Chair Dr. **Alex Lennon**.

The workshop was 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

Major outcomes of the Workshop

The workshop aimed to provide students and interested researchers with an introduction to the application of the finite element method to biomechanics. It combined a mixture of tutorial and state-of-the-art review lectures by leading researchers (see list of invited speakers below) in each application domain along with the opportunity for research students to present their work in free papers.

List of invited speakers who gave plenary lectures at the workshop

| Invited Speaker | Institution | Country |
|--------------------------------------|--|-----------------|
| Prof. Cecil G. Armstrong | Queens University Belfast | UK |
| Prof. Dr. –Ing. Gerhard A. Holzapfel | Graz University of Technology | Austria |
| Prof. Keita Ito | AO Research Institute | Switzerland |
| Prof. Chris Jacobs | Stanford University | USA |
| Dr. Danny Kelly | Trinity College Dublin | Ireland |
| Dr. Alex Lennon | Trinity College Dublin | Ireland |
| Mr. Georges Limbert | FIRST Numerics Ltd | UK |
| Prof. Peter McHugh | National University of Ireland, Galway | Ireland |
| Prof. Francesco Migliavacca | Politecnico di Milano | Italy |
| Dr. Sandra Shefelbine | Imperial College London | UK |
| Prof. Mark Taylor | University of Southampton | UK |
| Dr. Ir. Bert Van Rietbergen | Eindhoven University of Technology | The Netherlands |
| Prof. Marco Viceconti | Istituti Ortopedici Rizzoli | Italy |

In addition, special informal mentoring sessions were held after the free papers in which students could seek advice from the leading researchers in their field of study. This feature, in addition to the interactive social programme added to an informal and communicative forum for students to obtain input to their current and future research.

In an attempt to widen the audience for the plenary sessions, as well as to compensate for the higher than expected subscription to the workshop, the invited lectures were webcast using equipment and audio-visual staff provided by Engineers Ireland. Although some technical problems were encountered these were an interesting development and did manage to bring the workshop to desktops all over the world, as well as the intended overflow room in the Museum building, in which the workshop was hosted. It had

been intended to store the broadcast lectures and make them accessible to ESB members after the workshop but unfortunately some technical problems prevented this. However, the proceedings of the workshop are available for download in PDF format from:

<http://www.tcd.ie/bioengineering/esb2007/documents/ProceedingsoftheEuropeanSocietyofBiomechanicsWorkshop.pdf>



Best papers and posters

There were a total of 5 prizes (3 for best papers and 2 for best posters), which were awarded as follows:

| Prize | Author | Institution | Title |
|---|---------------------------------|---------------------------------|---|
| 1st prize for oral presentation | Noel Harrison | NUI Galway, Ireland | A novel large deformation finite element approach to modeling micro-damage and micro-fracture in trabecular bone |
| 2nd prize for oral presentation | Brianne Mulvihill | Trinity College Dublin, Ireland | Should biological factors be considered when applying mechano-regulation algorithms to finite element models? |
| 3rd prize for oral presentation | Carolina Dopico Gonzalez | University of Southampton, UK | Probabilistic Analysis of an Uncemented Total Hip Replacement |
| 1st prize for poster presentation | Hanna Isaksson | AO Foundation, Switzerland | Dual cortex formation during fracture callus remodeling in mice can be explained by mechanical loading mode |
| 2 nd prize for poster presentation | Niko Moritz | University of Turku, Finland | Development Of A Biomechanically Optimized Multi-Component Fiber-Reinforced Composite Implant For Load-Bearing Conditions |



Prize giving at this year's workshop. From Left to right: Prof. Patrick Prendergast (Workshop Chair), Carolina Dopico, Brianne Mulvihill, Prof. Marco Viceconti (ESB President), Hanna Isaksson, Niko Moritz





ANNOUNCEMENT ESB 2008

The European Society of Biomechanics cordially invites you to attend the 16th European Society of Biomechanics (ESB) conference in Lucerne. The conference organizers aim to bring together scientists from all over the world to discuss a broad range of topics in biomechanics. The conference will offer the opportunity for participants to exchange their ideas and experiences with colleagues active in all fields of biomechanics and across disciplines to biology, physics, clinical sciences etc.

We invite you to submit abstracts of your most recent results in all areas of biomechanics research, including Cardiovascular, Implants and Joints, Spine, Injury and Forensics, Soft and Hard Tissues, Imaging, Human Motion, Mechanobiology and Modeling. ESB promotes excellence by recognition of outstanding members with prestigious awards given at the biennial congress.

For detailed information on submissions and nominations, please refer to the awards regulations (www.esb2008.org/Award/).

A pre-course will highlight the extensive MedTech industry within Switzerland to bring you practical examples which link the basic research world to final applications. Mini-symposia are planned to provide valuable insight into the ever-increasing importance of collaborative research, interdisciplinary programs, EU funding opportunities and biomechanical education programs.

For information about the venue and submission of abstracts you may visit our web site: www.esb2008.org or contact us via the following e-mail address: info@esb2008.org. The conference is organized by the MEM Research Center of the University of Bern.

ESB2008 Conference Committee

Chairmen: Philippe Büchler
Stephen Ferguson
Lutz - P. Nolte

Local Program committee:

| | | | | |
|-----------------------------------|----------------------------------|---------------------------------------|-----------------------------------|--|
| K. Aminian EPF Lausanne | P. Büchler University of Bern | A.U. Daniels University of Basel | S. Ferguson University of Bern | G. Duda Chair of the ESB Meeting Committee |
| M. Gonzales University of Bern | P. Koumoutsakos ETH Zurich | J. Kowal University of Bern | I. Martin University of Basel | |
| E. Mazza ETH Zürich | R. Müller ETH Zürich | Lutz - P. Nolte University of Bern | D. Pioletti EPF Lausanne | |
| K.U. Schmitt ETH Zürich | N. Stergiopoulos EPF Lausanne | E. Stüssi ETH Zürich | A. Terrier EPF Lausanne | |

IMPORTANT DATES:

| | |
|--------------------------|----------------------------|
| Submission of abstracts: | November 30th, 2007 |
| Notification of authors: | January 15th, 2008 |
| Early registration date: | March 1st, 2008 |





ESB welcomes EnginSoft as Corporate Member

Stefano Odorizzi, General Manager – EnginSoft S.p.A.

It is a pleasure for the ESB to present our second Corporate Member: EnginSoft S.p.A.

EnginSoft S.p.A. has recently joined the ESB's as a Corporate Member. A description of the main activities of this leading innovative European Company in the field of CAE Computer Aided Engineering and Research, together with comments on their decision to join the ESB is included below.

Since the ESB approved a new Corporate Membership in the last General Assembly meeting (July/August 2006), the ESB is working hard to promote this new type of membership, trying to increase the number of Corporate Members. The main purpose is to promote technology transfer from research to the marketplace within our Society. 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).

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>). – JM. García-Aznar, Membership Committee.

EnginSoft – Key partner in design process integration

EnginSoft is a consulting company operating in the field of Computer-Aided-Engineering (CAE), virtual prototyping, process simulation and, more generally, scientific IT targeted to the optimization of design and production processes.

Founded in 1984, EnginSoft today has over 80 employees and 5 bases in Italy. We also support partner offices in various parts of Europe and promote the European modeFRONTIER Network. EnginSoft maintains numerous partnerships with both companies and universities on a European level.

Our mission is to spread the culture of digital technologies to both production and research fields. We pursue this challenge by offering engineering consulting services, a range of world-class CAE software, dedicated training courses and by promoting conferences, collaborations with research institutes, and publishing activity.

www.enginsoft.net

modeFRONTIER in Bioengineering

At the recent ESB Workshop in Trinity College Dublin, EnginSoft's experts outlined the impact of multi-objective numerical optimization in Bioengineering and the innovation chances that such procedures provide to researchers in this fast developing sector. In particular, some cases related to FEM and CFD in biomedical applications were described such as, for example, bone implants, blood devices and the design of an artificial lung. Emphasis was put on the

innovative approach and the application of optimization techniques in general. In this context, and during the exhibition, the use of modeFRONTIER as the tool for PIDO Process Integration and Multi-Objective Design Optimization was demonstrated in various examples following the delegates' specific requirements and interests.

DOE Design of experiments, optimization and robust design technologies proved to be effective in several biomedical applications. Their implementation, based on the modeFRONTIER environment, is straightforward, and can guarantee great improvements in design efficiency, time and cost savings, and productivity, without neglecting the achievements in terms of numerical model accuracy and the management of uncertainties.



modeFRONTIER is able to couple and steer most of the commercial CAE tools and in-house codes, and can be easily integrated in the simulation and testing standard procedure.

modeFRONTIER – Optimization for industry and academia

Developed and produced by ES.TEC.O. EnginSoft Optimization Technologies srl, modeFRONTIER is a world class software technology for PIDO - Process Integration and Multi Objective Design Optimization. PIDO is the new emerging approach to CAE and, more generally, to simulation-based engineering science which is revolutionizing the design process at all industrial levels.

The demand for accurate and efficient design techniques motivates research institutions and universities to innovate and improve simulation methodologies and techniques faster than ever before.

Numerical optimization, in combination with simulation, has a significant impact on this context: together, they allow, simultaneously, to improve the design, to shorten development times and to cut costs. The same design of experiments and optimization techniques can be crucial to tune numerical models over experimental reality, or to handle correctly uncertainties that affect them. In fact, exploiting the full potential of numerical simulations and increasing their predictive accuracy, requires the correct assessment of load cases, boundary conditions, material laws, physical models, and so on.

For more information about modeFRONTIER, please visit : www.esteco.com - www.network.modefrontier.eu

There can be no innovation without research and education

EnginSoft promotes, fosters, and coordinates research activities involving computational technologies at any level. Our team of experts includes engineers of any discipline, PhDs, researchers, and professors alike. Through its active role in currently nine different Research Projects and close relationships with universities and research institutes, EnginSoft supports research at a European level.

Since 1994 EnginSoft is accredited by the "Ministry for Education, University, and Research" as reliable partner for research purposes in the fields of Computer Aided Engineering and Virtual Testing. These credentials are required for being involved in research projects funded by the European Community.

Corporate membership

Recently, in July 2007, EnginSoft S.p.A. has become a Corporate Member of the European Society of Biomechanics. This new membership follows our presence as exhibitor and sponsor at the last ESB Workshop in Trinity College Dublin, together with IDAC Ireland, our partner and TechNet Alliance Member.

www.technet-alliance.com

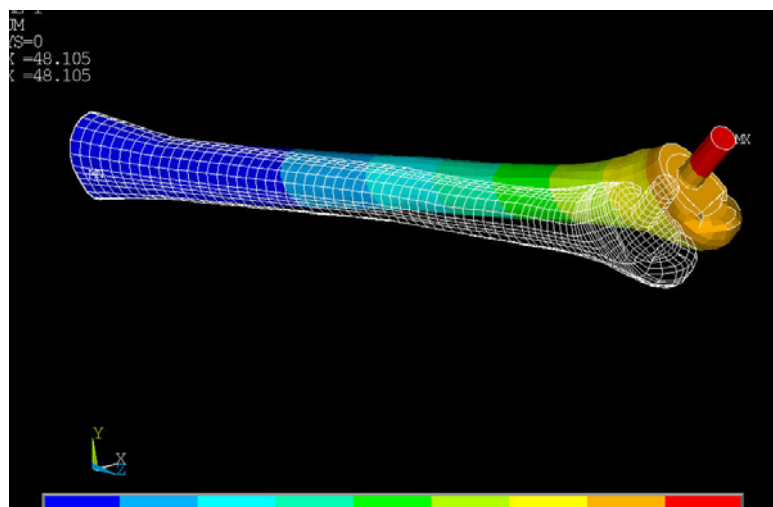
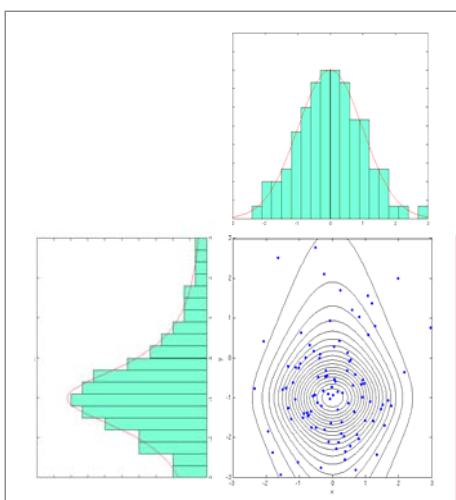
EnginSoft is delighted to support the ESB as a Corporate Member from industry with a strong background and tradition in research and education, areas we regard as essential for innovation.

The modeFRONTIER University Program

The modeFRONTIER University Program supports education with specific initiatives to facilitate teaching and research related activities on campuses across the world.

- We train and support academic researchers by providing dedicated training sessions, course material, articles and manuals
- We enhance visibility of academic research activities to the scientific community through publication in international magazines and through conferences and annual users' meetings
- Through the TCN consortium and our e-learning portal, professors and researchers can teach their courses to an audience of professionals and edit their works

Find out how to start your modeFRONTIER project with us.
Contact : unieu@enginsoft.it



Design of experiments techniques applied to assess the influence of some parameters affected by uncertainties on the predictions of the FE model of a human femur implanted with a cementless anatomical stem, taking into account frictional contacts at the bone / implant interface.

2ND CONFERENCE OF THE HELLENIC SOCIETY OF BIOMECHANICS (ELEMBIO 2007)

Elissavet Rousanoglou

Sport Biomechanics Lab, Faculty of Physical Education & Sport Science, Department of Sport Medicine & Biology of Exercise, National and Kapodistrian University of Athens, Greece

The 2nd Conference of the Hellenic (Greek) Society of Biomechanics (HSB) took place at the Greek Olympic Committee facilities in Ancient Olympia on May 4, 5 & 6, 2007 (<http://www.elembio.gr/>). The unique and inspirational environment and imposing surroundings of Ancient Olympia, the birthplace of the Olympic Games, was the ideal backdrop for a very successful and enjoyable Conference.

The high quality scientific programme included two Keynote presentations by Prof. W. Herzog from the University of Calgary, Canada on 'Force depression and force enhancement in skeletal muscle contraction' and Prof. Daniel Thalmann from the Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland on 'Virtual Athletes: Problems and Challenges'.

There were also invited presentations by Greek colleagues on Radiological assessment of osteoporosis, Biomaterials for tissue engineering, Interpretations of Aristotelis' selected treatises that marked the evolution of Biomechanics, Biomechanics in clinical physiotherapy assessment and Biomechanics of osseointegrated dental implants. There were a total of 110 participants and 80 presentations on Clinical, Sport and Biomaterial Biomechanics.



The Young Investigator 1st Prize for oral presentation was awarded to E. Gkogkosi from the [Laboratory of testing and Materials, Biomechanics Unit, Section of Mechanics, National Technical University of Athens](#), for her presentation on 'Computational simulation of the mechanical behaviour of the ACL in the knee joint'.



Aerial view of the Greek Olympic Committee facilities in Ancient Olympia

There were two awards for the 2nd Prize for oral presentation, to S. Rokidi from the [Laboratory of Inorganic & Analytical Chemistry, Department of Chemical Engineering University of Patras](#), for her presentation on 'Tissue calcification in vitro: methodology for biomaterials evaluation' and D. Voudouris from the [Motor Control and Learning Laboratory, Faculty of Physical Activity and Kinetics Performance, Department of Physical Education and Sport Science, Aristotle University of Thessaloniki](#) for his presentation on 'Ageing and stance asymmetry effects during avoidance of a moving object'. The 1st Prize for Poster presentation was awarded to N. Maurila from the [Sport Biomechanics Lab, Department of Sport Medicine &](#)

[Biology of Exercise, Faculty of Physical Education and Sport Science, National & Kapodistrian University of Athens](#) for her poster on the 'Influence of the finswimming monofin on the kinematics of the hip joint'.

The success of the Conference and the large number of participants, especially young graduate students are very promising indications for the future prospects of Biomechanics in Greece. The Hellenic Society of Biomechanics (ELEMBIO) has applied for Affiliated Society status to the ISB and we hope to have closer links with ESB and possibly organise jointly one of the future graduate student workshops in Greece.

INTERPRETATIONS OF ARISTOTLE'S SELECTED TREATISES THAT MARKED THE EVOLUTION OF BIOMECHANICS

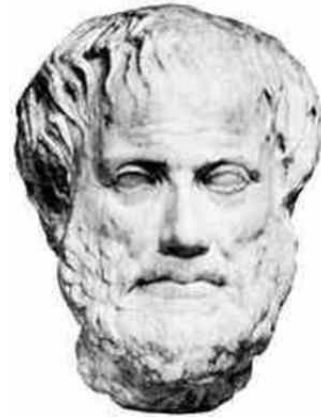
Konstantinos Boudolos

Sport Biomechanics Lab, Faculty of Physical Education & Sport Science, Department of Sport Medicine & Biology of Exercise, National and Kapodistrian University of Athens, Greece

cbountol@phed.uoa.gr

Aristotle (384-322 BC) has been considered the father of biological sciences ^[1]. He systematically dealt with research and teaching and pursued questions on mechanical systems. He made philosophy coextensive with "reasoning" which he also described as "science". The ceaseless creativity of his mind has inspired the respect to those who study ancient Greek philosophy. Among his most mature work, from the point of content and argumentation, are his treatises "Movement of animals" and "Progression of animals", in which dominates the viewpoint of a philosopher of nature ^[2,3]. "Nature makes nothing in vain". All living beings obviously allocate the innate spirit and draw their force from it. He pursued the belief that initiation of motion in space is impossible unless there exists a steady point of calmness that serves as the "starting line". "Motionless" is considered as natural reality: In order to move or to be moved a solid surface must exist. Thus, each body part needs a point of calmness in order to achieve motion. "*The articulation of elbow remains in calmness when the forearm is moving, as also occurs in the articulation of shoulder when the arm is moving ...*"^[1]. The consideration that, if flexion was not possible, neither walking nor swimming or flight could occur, comes to strengthen the theoretical inquiry for each topic of study and also appears to consolidate biological research. He claimed that the occurrence of a small change at the beginning of a movement ^[1], results in big and many changes in the distance of movement. The functions of movement are the push and the pull, thus the moving body should be capable of stretching and contracting itself ^[1]. Interpreting the principles of translational movements and accepting the above functions as authentic movements, he explained why the athletes of pentathlon can jump longer when holding the halters ^[1] than without holding them, and why the runners can run faster when moving their upper extremities, since, during the extension of the forearms, a kind of support is created on the wrists and the hands. That which is transported using two at least other organic parts, is a body that exerts compression and the other one as if it is compressed. The claim that the initiation of movement occurs on the right side is based on the

observation that persons always carry loads on the left shoulder, allowing freedom to the side that initiates the movement. In conclusion, "...each body segment and each body organ serves as a tool to accomplish a task, and ultimately this is how the whole body has been created: for the achievement of a compound purpose, and it is from the work that the purpose is identified".



References

- [1] <http://en.wikipedia.org/wiki/Biomechanics>
- [2] Aristotle, *Movement of Animals (or De Motu Animalium)*, edited by Kaktos, Athens 1994.
- [3] Aristotle, *Progression of Animals (or De Incessu Animalium)*, edited by Kaktos, Athens 1994.
- [4] Ingemar DURING (2000). *Aristotle, Presentation and interpretation of his works*, edited by the Educational Institution of the National Bank of Greece.

NEW BOOKS

Biomechanics in Clinic and Research

An interactive teaching and learning course

- By Jim Richards, PhD, Professor of Biomechanics, Department of Allied Health Professions, Faculty of Health, University of Central Lancashire, UK
- ISBN 0443101701 / 9780443101700 • Hardback • 256 Pages • 334 Illustrations
- Churchill Livingstone • Forthcoming Title (November 2007)
- Price: £ 69.99
- <http://intl.elsevierhealth.com/catalogue/title.cfm?ISBN=9780443101700>

Trauma Biomechanics

Accidental Injury in Traffic and Sports

- By Schmitt, K.-U., Niederer, P.F., Muser, M.H., Walz, F.
- SPRINGER. 2nd ed., 2007, IX, 210 p. 88 illus., Softcover. ISBN: 978-3-540-73872-5
- Price: £ 69.95
- <http://www.springer.com/west/home/generic/order?SGWID=4-40110-22-173750505-0>



ENDORSED CONGRESSES

- **8th World Biomaterials Congress.** 28 May - 1 June 2008, Amsterdam, The Netherlands. www.wbc2008.com



8th World Biomaterials Congress
Crossing frontiers in biomaterials and regenerative medicine

28 May - 1 June 2008

- **International Conference on Ambulatory Monitoring of Physical Activity and Movement**, ICAMPAM, 21-24 May 2008, Rotterdam, The Netherlands. See <http://www.icampam.org/>.



- **IMechE conference on "Engineering the Upper Limb: Patient Specific Surgical Planning and Implementation"** (April 23-24, 2008, London, UK, see <http://www.imeche.org/events/upperlimb>)

OTHER CONGRESSES

- **Computer Methods in Biomechanics and Biomedical Engineering** (27th February-1st March, 2008, Porto, Portugal. Please monitor the meeting website for more details <http://www.cmbbe2008.cf.ac.uk/>)

SOCIETY NEWS

2008 ESB Membership Campaign

As 2007 is nearing its end, we want to invite you to renew your membership of the European Society of Biomechanics. The 2008 membership campaign is organized electronically. Invoices were sent by email to all members on November 9, 2007. If you did not receive the invoice, please contact the treasurer at treasurer@esbiomech.org.

Payment must be online (web portal, see <http://www.esbiomech.org/Section/online-payment>), by bank transfer or credit card. In order to keep all administrative overhead as low as possible, we would strongly like to encourage you to use online payment. A valid credit card is needed for the secure transaction. The online payment site can be accessed after login. If you forgot your username and/or password, please consult the FAQ at our website (<http://www.esbiomech.org/Html/15>). Instructions for online payment can be found on the same webpage.

As it is crucial for any viable Society to have an accurate members' database, we would like to ask you to check your personal data (as given on the invoice) and update them if necessary. You can update very easily your personal data online (see <http://www.esbiomech.org/Account/Home>, personal login required).

The ESB offers reduced subscription to a number of journals (see below). In order to ensure continuation of your journal subscriptions we would like to ask you to pay your membership and journal subscription fees before November 30, 2007.

Journal subscriptions

ESB is affiliated with the Journal of Biomechanics and Clinical Biomechanics, both published by Elsevier. As part of this affiliation, each member has the option to purchase a personal subscription. The fee for this subscription is a special reduced rate arranged between the ESB and Elsevier. The subscription is for both print and online access.

In addition, ESB members are also eligible to receive optional journal subscriptions at special reduced rates, arranged with Elsevier (The Knee, The Foot, Gait and Posture, Journal of Electromyography and Kinesiology) and Taylor & Francis (Computer Methods in Biomechanics and Biomedical Engineering).

Please remember that all journal subscriptions through the ESB must be treated as personal copies and cannot be used in libraries.

Journal of Biomechanics and Clinical Biomechanics are included in the HINARI program (<http://www.who.int/hinari/en/>).

| <i>Journal subscription rate 2008 (VAT included)</i> | |
|--|------|
| Journal of Biomechanics (print & online; normal price 410 €) | 91 € |
| Clinical Biomechanics (print and online; normal price 125 €) | 84 € |
| The Knee (print only; normal price 148 €) | 84 € |
| The Foot (print only; normal price 152 €) | 125€ |
| Gait and Posture (print and online; normal price 155 €) | 98 € |
| Journal of Electromyography and Kinesiology (print only; normal price 155 €) | 108€ |
| Computer Methods in Biomechanics and Biomedical Engineering (print only; normal price 153 €) | 63 € |

Last Council Meeting

Headlines of Council minutes

- After a campaign against members who are not in good standing regarding their fee payment, the Council decided to exclude 24 members who have never paid their first membership and 35 members who have never paid their membership in the last 3 years.
- The by-laws of the ESB have been revised and will be proposed to the membership for its approval at the next General Assembly.
- Due to the difficulty in getting qualified volunteers in maintaining the web site of the ESB, it was decided to contract a professional webmaster.
- Due to unavoidable professional obligations Prof. Cunningham, our current Treasurer, was forced to resign from the Council before the term of his mandate. The duty of Treasurer will be taken pro tempore by Council member Hans Van Oosterwyck, until the elections we shall have next year during ESB2008. The responsibility for the Newsletter editions will be taken by Council member Manuel Garcia.

New ESB members

Since March 2007 we have had the pleasure of welcoming 27 new members:

Gheorghe Frunza (Romania), Caitriona Rally (Ireland), Leonidas Spyrou (Greece), Yash Agarwal (United Kingdom), Zhonghua Li (United States), Wolfgang Wall (Germany), Alexei Zhurov (United Kingdom), Juan Garcia-Lopez (Spain), Ken-ichi Tezuka (Japan), Brendan Frehill (United Kingdom), Richie Gill (United Kingdom), Lucian Capitanu (Romania), Alkiviadis Tsamis (Switzerland), Sylvie Wedling (France), Vittoria Flamini (Ireland), David Hardman (United Kingdom), Elena Troia (Italy), Meteb Altaf (United Kingdom), Hao Gao (United Kingdom), Javier Martínez Reina (Spain), Peter Portier (Belgium), Denis

Van Loo (Belgium), Francesco Franchini (Italy), Esther Reina (Spain), Saba Abdulghani (United Kingdom), Ellen Kuhl (United States), Bernd Georg Lapatki (Germany).

2006 Clinical Biomechanics Award

As ESB is very dedicated to the field of Clinical Biomechanics, we are very proud to announce that the 2006 Clinical Biomechanics Award paper has just

been published: [E. Northwood, J. Fisher. Clin. Biomech. 22\(7\):834-842, 2007.](#)

ESB Gossip

Prof. **Liz Tanner** was appointed professor in the Department of Mechanical Engineering in the University of Glasgow.

BLAST FROM THE PAST

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 of the first ESB Council.



First Council of the European Society of Biomechanics (Brussels, 1960)

Upper row: F. Burny (left), J. Wagner, PM. Calderale (right)

Lower row: Quenada (left), JT. Scales, R. Huijkes (right)