



FEPS

Federation of European Physiological Societies

FEPS NEWSLETTER

January/February
2007, #13

<http://www.feps.org>

**Secretariat
FEPS Newsletter:**

Sonia Froidmont
Dept. of Physiology
University Maastricht
P.O. Box 616
6200 MD Maastricht
The Netherlands

Phone: +31-43-3881200
Fax: +31-43-3884166

FEPS-secretariat@fys.unimaas.nl

Executive Board of FEPS:

Hans Hultborn
Copenhagen, Denmark
President

Ger van der Vusse
Maastricht, The Netherlands
Secretary General

Peter Bie
Odense, Denmark
Treasurer

Ulrich Pohl
Munich, Germany
President Elect

Eva Sykova
Prague, Czech Republic
Member

Carlo Di Benedetto
Bari, Italy
Member

<u>Letter of the Secretary General of FEPS</u>	1
Information about the <u>Joint meeting of the Slovak Physiological Society, The Physiological Society and FEPS in Bratislava 2007</u>	2
Information about the <u>FEPS Teaching Physiology Symposium at the Joint meeting in Bratislava, 2007</u>	3
<u>FEPS Travel Fellowships for the Joint Meeting in Bratislava, September 11-14, 2007</u>	4
List of contents of the <u>October issue of Acta Physiologica</u>	5
List of contents of the <u>November/December issue of Acta Physiologica</u>	6
List of contents of the <u>January issue of Acta Physiologica</u>	7
List of contents of the <u>February issue of Acta Physiologica</u>	8

Letter of the Secretary General of FEPS

Dear colleagues,

The Joint meeting of the Federation of European Physiological Societies, the Physiological Society of UK and Ireland and the Slovak Physiological Society is getting shape.

The meeting will be supported by FEPS in many ways. The FEPS keynote lecture will be presented by prof. Torben Clausen, Aarhus University, Denmark. In his lecture Torben Clausen will focus on the Na, K-pump in skeletal muscle and its physiological and clinical significance.

The annual FEPS Physiology teaching symposium, organized by the FEPS Taskforce on teaching, will take place just prior to the main body of the scientific meeting. The teaching symposium will focus, among others, on the role of ICT in Physiology teaching.

FEPS will also financially support young European physiologists to attend the joint meeting by at least 20 travel grants.

More information about the meeting can be found on the homepage www.joint.conference.sav.sk

We are looking forward to meeting you in Bratislava, September 11-14, 2007.

Sincerely,

Ger J. van der Vusse
Secretary General FEPS



**Joint Meeting
of
The Slovak Physiological Society
and
The Physiological Society
and
The Federation of European Physiological Societies
BRATISLAVA, September 11-14, 2007**

Dear colleagues,

You may now check the latest information on this Joint European Physiology Congress on the web page

<http://www.joint.conference.sav.sk/>

This page is continuously up-dated with new information as it becomes available.

Most importantly!

The deadline for abstract submission will be **June 15, 2007**

Early-bird registration will be available on-line for 100 Euros

Our city lies on the Danube and is very pleasant in September; I hope you will love it as much as I do. Bratislava is an old city with a long history, dominated by the Castle. The historical city centre is where the most important events have happened since the 14th century, such as regular markets, celebrations and executions. Now the centre is full of people enjoying the cultural and sporting events that take place almost each day, as well as the café society. Sculptures on the streets are a document to the sense of humour of the artists and to the good spirit of the city.

There are many ways to get to Bratislava. For those wanting to enjoy the most beautiful sights of the Danube banks and Devín Castle I recommend the attractive, fast and comfortable cruise from Vienna to Bratislava by hydrofoil; in 90 minutes you will get directly to Bratislava's downtown. A similarly attractive daily connection is from Budapest; here the cruise takes about four hours.

We hope you will enjoy the science presented at the Joint Meeting, along with the relaxed and friendly atmosphere in Bratislava, as well as its history, cultural life and beauty. Our location in the centre of Europe will attract people from its four corners, and beyond, to produce a true European Union of Science.

On behalf of the local organizers,

Vladimir Strbák

**FEPS Symposium on
„Innovative methods in Teaching Physiology
Developments in ICT in Physiology Teaching“**

**Tuesday, September 11, 2007
14.00-17.00 hrs**

Bratislava, Slovak Republic

This 3rd FEPS Symposium on education in Physiology will concentrate on new developments in computer-supported teaching, and in which the audience will be invited to participate vividly in the discussion.

In this symposium several aspects of innovations in computer-supported learning will be covered, such as:

1. How to introduce and use e-learning.
2. How to build a Physiology course using ICT.
3. Learning sources: Is Google more powerful than a good modern textbook?
4. Sense and non-sense about CSCL (Computer-Supported Collaborative Learning).
5. Computer-based examinations.

The symposium will be organized as such that each of the above mentioned domains will be covered by an expert lecturer in a presentation of about 20 minutes each. When appropriate, participants will be given the opportunity to work with the developed computer aids. Furthermore, ample time will be reserved for discussion after each lecture.

The symposium will be organized and chaired by Dr. Martin Fischer from the Munich University Hospital, Germany. Dr. Fischer is an educational expert and collaborated in several projects with a focus on the development of computer-supported case-based learning in medicine.

We are looking forward to meeting you at this important Physiology teaching event in the year 2007, organized at the Joint Meeting of the Slovak Physiological Society, the Physiological Society and FEPS.

Prof Luc Snoeckx, chairman of the FEPS Task Force on Physiology Teaching.

For more information regarding the symposium you can contact:

Dr. Luc Snoeckx [L.Snoeckx@fys.unimaas.nl], or/and

Dr. Martin Fischer [Fischer.Martin@med.uni-muenchen.de]

Application for a travelling fellowship to the Joint Meeting of the Slovak Physiological Society, the Physiological Society (UK and Eire) and the Federation of the European Physiological Societies (FEPS)

Bratislava, September 11-14, 2007

The FEPS Executive Board has made available 10,000 euros to provide 20 - 30 travelling fellowships, for the Joint Meeting in Bratislava 2007.

Applicants should be **under 35 years of age** and the application should be submitted to the Secretary General of FEPS (FEPS-secretariat@fys.unimaas.nl)

The application shall include:

- A 1-page *curriculum vitae* including information about date of birth, nationality, education and scientific career. The CV should be accompanied with a list of publications of the applicant in international journals.
- An abstract for the meeting. The abstract form of the Joint meeting should be used (see homepage: <http://www.joint.conference.sav.sk/dev/>).

The deadline for the application for the travel fellowship is May 15, 2007

Applicants will be informed (by e-mail) of the decision **on June 1, 2007, two weeks before the abstract submission dead line of the Joint meeting (June 15, 2007).**

Applications will be scrutinised by members of Executive Board of FEPS and their decision is final.



List of contents of Acta Physiologica October 2006, Volume 188 Issue 2 page 75-149

EDITOR'S CHOICE

NO bioactivity 3', 5'-monophosphate (cGMP): correlation to plasma nitrite but not nitrate 75
Jon Lundberg

Higher estimate of lung microvascular fluid production 75
Jahar Bhattacharya

REVIEW

Atrophy and hypertrophy of skeletal muscles: structural and functional aspects 77
O. Boonyarom and K. Inui

CARDIOVASCULAR

Forearm plethysmography in the assessment of vascular tone and resistance vasculature design: new methodological insights 91
O.N. Mathiassen, N.H. Buss, H.W. Olsen, M.L. Larsen, M.J. Mulvany and K.L. Christensen

Adventitia-dependent mechanical properties of brachiocephalic ovine arteries in *in vivo* and *in vitro* studies 103
E.I. Cabrera Fischer, D. Bia, J.M. Camus, Y. Zócalo, E. de Forteza and R.L. Armentano

MUSCLE

Soleus, plantaris and gastrocnemius VEGF mRNA responses to hypoxia and exercise and preserved in aged compared with young female C57BL/6 mice 113
T.P. Gavin, L.M. Westerkamp and K.A. Zwetsloot

NITRIC OXIDE

Relationship between systemic nitric oxide metabolites and cyclic GMP in healthy male volunteers 123
I.F. Metzger, J.T.C. Sertorio and J.E. Tanus-Santos

RENAL

Systemic effects of angiotensin III in conscious dogs during acute double blockade of the renin-angiotensin-aldosterone-system
I. Gammelgaard, S. Warnberg and P. Bie

RESPIRATORY

New method for evaluation of lung lymph flow rate with intact lymphatics in anaesthetized sheep 139
T. Naito, Y. Ozawa, M. Tomoyasu, M. Inagaki, M. Fukue, M. Sakai, T. Yamamoto, S. Ishikawa and M. Onizuka



List of contents of Acta Physiologica November/December 2006, Volume 188 Issue 3-4 page 151-236

EDITOR'S CHOICE

- GABA_A receptor inhibition - site matters!** 151
Bjarke Ebert

- Testosterone shortens QT interval on ECG in both genders and may underlie lower incidence of torsades de pointes in males** 151
Ari-Pekka Koivisto

CELL BIOLOGY

- Pregnenolone sulphate and Zn²⁺ inhibit recombinant rat GABA_A receptor through different channel property** 153
M.-D. Wang, M. Rahman, D. Zhu and T. Bäckström

- Effects of sex hormones on ECG parameters and expression of cardiac ion channels in dogs** 163
L. Fülöp, T. Bányász, G. Szabó, I.B. Tóth, T. Biró, I. Lőrincz, Á. Balogh, K. Petô, I. Mikó and P.P. Nánási

CARDIOVASCULAR

- Enhancement of methoxamine-induced contractile responses of rat ventricular muscle in streptozotocin-induced diabetes is associated with α_{1A} adrenoceptor upregulation**
K. Kamata, T. Satoh, T. Matsumoto, E. Noguchi, K. Taguchi, T. Kobayashi, H. Tanaka and K. Shigenobu

- Reduced pH and contractility in failing rat cardiomyocytes** 185
O.J. Kemi, I. Arbo, M.A. Høydal, J.P. Loennechen, U. Wisløff, G.L. Smith and Ø. Ellingsen

- Different effect of ATP on ANP receptor guanylyl cyclase in spontaneously hypertensive and normotensive rats** 195
G.E. Woodard, J. Zhao, J.A. Rosado

MUSCLE

- Human skeletal muscle fibre type variations correlate with PPAR α , PPAR δ and PGC-1 α mRNA** 207
D.K. Krämer, M. Ahlsén, J. Norrbom, E. Jansson, N. Hjeltne, T. Gustafsson and A. Krook

- Muscle type-specific response of PGC-1 α and oxidative enzymes during voluntary wheel running in mouse skeletal muscle** 217
S. Ikeda, H. Kawamoto, K. Kasaoka, Y. Hitomi, T. Kizaki, Y. Sankai, H. Ohno, S. Haga and T. Takemasa

LETTER TO THE EDITOR

- Workshop on "Innovative methods in teaching physiology. Experiences with problem-based-learning" at the joint meeting of the German Physiological Society and the Federation of European Physiological Societies, Munich, March 26-29, 2006** 225
L.H.E.H. Snoeckx, M. oude Egbrink and G.J. van der Vusse

- ACKNOWLEDGEMENTS TO REFEREES** 229

- AUTHOR INDEX** 233

- SUBJECT INDEX** 235



List of contents of Acta Physiologica January 2007, Volume 189 Issue 1 page 1-107

EDITOR'S CHOICE

- Complex interactions of $Er\alpha$ and $Er\beta$ oestrogen receptors in remodelling following myocardial infarction in the mouse** /
A.F. James

- Gastrocnemius muscle fascicles undergo smaller length changes during walking in older than in young adults** /
R. Herbert

REVIEW

- Mediators of tubuloglomerular feedback regulation of glomerular filtration: ATP and adenosine** 3
H. Castrop

CARDIOVASCULAR

- Hepatic pre-sinusoidal vessels contract in anaphylactic hypotension in rabbits** 15
N. Karasawa, T. Shibamoto, S. Cui, H. Takano, Y. Kurata and H. Tsuchida

- Oestrogen modulates cardiac ischaemic remodelling through oestrogen receptor-specific mechanisms** 23
F.A. Babiker, D.J. Lips, E. Delvaux, P. Zandberg, B.J.A. Janssen, F. Prinzen, G. van Eys, C. Grohé and P.A. Doevendans

- Arrhythmogenic mechanisms in the isolated perfused hypokalaemic murine heart** 33
M.J. Killeen, G. Thomas, I.S. Gurung, C.A. Goddard, J.A. Fraser, M.P. Mahaut-Smith, W.H. Colledge, A.A. Grace and C.L.-H. Huang

ENDOCRINOLOGY

- Expression of oestrogen receptors α and β during the period of uterine receptivity in rat: effect of ormeloxifene, a selective oestrogen receptor modulator** 47
S. Awasthi, C.S. Blesson and A. Dwivedi

MUSCLE

- Gastrocnemius muscle-tendon behaviour during walking in young and older adults** 57
O.S. Mian, J.M. Thom, L.P. Ardigò, A.E. Minetti and M.V. Narici

RENAL

- Relief of chronic partial ureteral obstruction attenuates salt-sensitive hypertension in rats** 67
M. Carlström, N. Wåhlin, O. Skøtt and A.E.G. Persson

- Effects of ATP on rat renal haemodynamics and excretion: role of sodium intake, nitric oxide and cytochrome P450** 77
L. Dobrowolski, A. Walkowska, E. Kompanowska-Jeziarska, M. Kuczeriszka and J. Sadowski

RESPIRATORY

- Determination of ethane, pentane and isoprene in exhaled air - effects of breath-holding, flow rate and purified air** 87
M. A.E. Lärstad, K. Torén, B. Bake and A.-C. Olin

LETTER TO THE EDITOR

- New method for evaluation of lung lymph flow rate with intact lymphatics in anaesthetized sheep** 99
M. Cevallos, L. Traber, D. Traber and J. Zwischenberger

REPLY

- T. Naito, Y. Ozawa, M. Tomoyasu, M. Inagaki, M. Fukue, M. Sakai, T. Yamamoto, S. Ishikawa and M. Onizuka* 100

ERRATUM

101

INSTRUCTIONS FOR AUTHORS

103



List of contents of Acta Physiologica February 2007, Volume 189 Issue 2 page 109-207

EDITORIAL

Plasticity and regeneration of the spinal cord and peripheral nervous system 109
H. Hultborn, J.B. Nielsen and C. Krarup

NORMAL CONTROL OF MOVEMENTS - LOCOMOTION, REACHING FOR OBJECTS, MANIPULATION OF OBJECTS
Spinal control of locomotion - from cat to man 111
H. Hultborn and J.B. Nielsen

The C3-C4 propriospinal system in the cat and monkey: a spinal pre-motoneuronal centre for voluntary motor control 123
B. Alstermark, T. Isa, L.-G. Pettersson and S. Sasaki

Skilled digit movements in feline and primate - recovery after selective spinal cord lesions 141
L.-G. Pettersson, B. Alstermark, E. Blagovechtchenski, T. Isa and S. Sasaski

PLASTICITY AT THE SPINAL LEVEL IN NORMAL LIVE AND FOLLOWING LESIONS
Spinal cord plasticity in acquisition and maintenance of motor skills 155
J.R. Wolpaw

The spinal pathophysiology of spasticity - from a basic science point of view 171
J. B. Nielsen, C. Crone and H. Hultborn

Schwann cell and olfactory ensheathing cell implantation for repair of the contused spinal cord 181
M. Oudega

REGENERATION FOLLOWING PERIPHERAL NERVE LESIONS
Internodal fuction in normal and regenerated mammalian axons 191
M. Moldovan and C. Krarup

The specificity of motor neurone regeneration (preferential reinnervation) 201
R.D. Madison, G.A. Robinson and S.R. Chadaram

Hand function after nerve repair 207
G. Lundborg and B. Rosén