Joint Meeting of the Federation of European Physiological Societies (FEPS) and the Baltic Physiological Societies

PROGRAMME

26 - 29 August, 2015
Kaunas, Lithuania
From the President of the joint meeting of FEPS and the Baltic Physiological Societies

Dear colleagues and guests,

It gives me a very great pleasure to welcome participants and guests of this joint meeting of FEPS and the Baltic Physiological Societies in Kaunas, Lithuania. I do this also on behalf of the Local and International Organizing Committee and give many thanks to Dr. Dalia Akramienė, Dr. Rimvydas Miliauskas and all the team members for their very hard work in organising this meeting in Kaunas. Many special thanks go to corporate members of the Federation of European Physiological Societies who contributed in a beneficial way so that FEPS is able to achieve its purpose. I would also like to thank the sponsors for this particular meeting in Kaunas because their assistance is essential for a rewarding event.

Kaunas (first mentioned in 1361) is an important historical and cultural city in Lithuania and also the home of the Lithuanian University of Health Sciences which is the largest institution of higher education of biomedical sciences in Lithuania, successfully integrating studies, research and clinical practice. Physiology has been taught in Kaunas since 1922 when the Department of Physiology and Physiological Chemistry was established. Research development in the field of physiology naturally led to the establishment of the Lithuanian Physiological Society at the University, then Kaunas Institute of Medicine, in 1955.

This meeting brings physiologists and biomedical researchers from around all Europe. The programme covers a broad range of physiological sciences and includes the traditional FEPS Young Scientist and Physiology Teaching Symposium. We have received abstracts from all over Europe and the USA as well. Over 300 abstracts will be presented in 10 poster sessions and different symposia.

Finally, I would like to draw your attention to the lectures which will be presented on the Satellite symposium of clinical and experimental pharmacology. With the new residency programme of Clinical Pharmacology recently implemented at the Lithuanian University of Health Sciences, there is no better time to acquaint our guests with the latest developments in clinical pharmacology as a medical speciality in Lithuania and learn from keynote speakers and their experience.
I would like to conclude my welcome message by giving warm thanks to all abstract authors and poster-presenters for their eagerness to share their research findings with the participants of this meeting. I wish you all a scientifically and personally enjoyable time in Kaunas.

Prof. Edgaras Stankevičius

President of the joint meeting of FEPS and the Baltic Physiological Societies

It is my privilege to address you all and welcome our honoured speakers and participants to the opening of this unique gathering, the Joint Meeting of the FEPS and the Baltic Physiological Societies. Here and now I wish to express my great appreciation to all the distinguished guests who have gathered here from 35 countries. We are anxious to hear our respected colleagues speaking about their recent research developments in physiology (and related fields) and I am sure we are all looking forward to all the poster presentations that have been scheduled.

I would also like to express my gratitude to all those who so generously helped us make this event come together smoothly. This makes us very proud to host the congress here in Kaunas, at the Lithuanian University of Health Sciences.

I would like to thank all of you for attending the congress and bringing your expertise to what I know is going to be a great gathering. Let me express our most sincere wish that the discussions throughout the meeting will contribute to the development in physiology and science overall.

Prof. Vaiva Lesauskaitė

Vice-Rector for Research, Lithuanian University of Health Sciences
On behalf of the Federation of European Physiological Societies (FEPS), it is my great pleasure to welcome you to our annual meeting. FEPS was founded in 1991 in order to bring together physiologists from all over Europe and now has 34 member countries. I would like to thank the local organizers for the invitation and all their hard work in preparing for the meeting.

I hope that you will enjoy, not only the science, but also the opportunity to network, both professionally and socially with colleagues from all over Europe and beyond. If you do, then we look forward to seeing you at the 25th anniversary meeting in Paris in 2016.

David Eisner
Federation of European Physiological Societies President
The Joint Meeting of the Federation of European Physiological Societies (FEPS) and the Baltic Physiological Societies.

**SCIENTIFIC PROGRAM COMMITTEE**

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Prof. Dr. Markus Hecker, Germany  
Prof. Dr. Bayram Yılmaz, Turkey  
Prof. Dr. Ger van der Vusse, The Netherlands  
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Prof. Arvydas Skeberdis, Lithuania  
Dr. Liga Ozolina-Moll, Latvia  
Prof. Dr. Eero Vasar, Estonia

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Dr. Rimvydas Miliauskas, Lithuania  
Igor Korotkich, Lithuania  
Dr. Maija Rumaka, Latvia  
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Prof. Dr. Guler Ozturk, Turkey  
Assoc. Prof. Andrea Tamas, Hungary  
Eglė Svitojūtė, Lithuania  
Aurelija Noreikaitė, Lithuania  
Mantas Maliauskas, Lithuania

**FEPS EXECUTIVE COMMITTEE**

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Markus Hecker, President-Elect  
Ulrich Pohl, Past President  
Bryndis Birnir, Treasurer  
Bayram Yilmaz, Secretary General  
Alexej Verkhratsky, Member  
Ginés M. Salido, Member
The Lithuanian University of Health Sciences is a new appearance in the area of Lithuanian higher education. On June 30, 2010, the Parliament of the Republic of Lithuania passed a resolution to merge Kaunas University of Medicine and the Lithuanian Veterinary Academy. Now LUHS is the biggest institution of higher education for biomedical sciences in Lithuania, continuing the best traditions of KMU and LVA. The University is the largest institution of higher education for biomedical sciences in Lithuania, successfully integrating studies, research and clinical practice. LSMU consists of two main academies: Medical Academy and Veterinary Academy.

The venue address is:
Lithuanian University of Health Sciences
New Pharmaceutical and Health Technology Center
Eiveniu g. 4, 50103, Kaunas, Lithuania
WEBSITE FOR FURTHER INFORMATION
www.feps2015.org

OPENING HOURS OF THE REGISTRATION

26 August, Wednesday  09:00 - 18:00
27 August, Thursday  08:00 - 18:00
28 August, Friday  08:00 - 18:30
29 August, Saturday  08:00 - 16:00

REGISTRATION FEES

On-site fee
Regular  300 €
Student  150 €
Lunch  10 €
Gala dinner  55 €

Registration fee for regular participants and students includes:
• Access to scientific presentations, program book and conference material
• Lunches and coffee breaks
• Welcome reception

OFFICIAL CONFERENCE LANGUAGE

Official language is English. No simultaneous translation will be provided.

CERTIFICATE OF ATTENDANCE

A Certificate of Attendance will be issued at the time of registration to delegates who are pre-registered. For on-site registrants, a Certificate of Attendance will be available at the end of the Conference. No certificate will be issued after the Conference.

NAME TAGS

Participants are requested to wear name tags received during registration. Name tags serve for identification purpose as well as entrance pass to Conference sessions, coffee breaks, lunches and Welcome reception.

Bright green label on the back side of the name tag is the entrance ticket for Gala Dinner. Bright orange label on the back side of the name tag is the entrance ticket for EYPS Party.
TRANSPORTATION TO/FROM CONFERENCE VENUE
Transportation to/from conference venue will be available during the meeting.

Transportation schedule TO Venue:
August 26: 1st time bus leaves from
Europa Royal hotel at 8:30
Kaunas hotel at 8:35
Park Inn hotel at 8:40
2nd time bus leaves from
Europa Royal hotel at 12:00
Kaunas hotel at 12:05
Park Inn hotel at 12:10
August 27–29: bus leaves from
Europa Royal hotel at 7:50
Kaunas hotel at 7:55
Park Inn hotel at 8:00

Transportation schedule FROM Venue:
August 26: bus leaves at 21:10
August 27: bus leaves at 18:10
August 28: bus leaves at 18:10
August 29: bus leaves at 17:00

CLOAKROOM AND LUGGAGE
There will be lockers for luggage and suitcases. It will be available during the official opening hours. The FEPS and the Expert-Quality Congress and Travel Agency will not be responsible for any item left beyond the duty hours.

IMPORTANT TELEPHONE NUMBERS
Registration desk: + 370 624 20130; +370 687 08745
Information line: 118
24/7 technical assistance on the road: 1414
General Emergency number: 112
Taxi booking: +370 683 32332

INTERNET AVAILABILITY
Fee wireless internet in the building of conference venue requires password. Choose LSMU-public as Wireless Network Connection and type the network security key: Ismulsmu. The connection information is also available at the Registration desk.
MOBILE PHONES
Mobile phones should be switched off during any Scientific Session.

POSTER BOARDS
The Poster area is located on the second floor at the same level as Symposia halls. The size of the poster board is the following: 70 cm wide and 90 cm high.

PROGRAMME CHANGES
Organisers cannot assume liability for any changes in the programme due to external or unforeseen circumstances.

LIABILITY
The Local Organising Committee and Travel Agency do not accept liability for personal medical expenses, travel expenses, losses of whatever nature incurred by delegates and/or accompanying persons.

SMOKING
Smoking is strictly forbidden in the whole area of the Conference Venue.

PICTURES AND AUDIO RECORDING
It is forbidden to take photos or to make audio recording in the lecture rooms.

PROCESSING AND PUBLICATION OF PERSONAL DATA
Please note that the personal information we receive from participants will be used for statistical purposes or for the dispatch of information on relevant conferences in the future.

TOURIST INFORMATION
Information about excursions and what to see in Kaunas during free time is provided at Tourism information desk next to the Registration desk. Registration: info@supertravels.lt; Tel. No. +370 610 39490

PUBLIC TRANSPORT
City busses and trolleybuses run 7 days a week from ~05.00 to 23.00 o’clock. Single trip tickets are sold by driver and cost 0.70 EUR. Taxi booking Tel. No. +370 683 32332. Special fare is 0.59 EUR/km all day for FEPS 2015 participants. No boarding fee will be applied. Payment by credit card is possible when requested at the time of booking.
The organizers are grateful for the generous support of the partners and sponsors.
GUIDELINES & INFORMATION

GUIDELINES FOR SPEAKERS

Oral presentations
1. Please locate your session room in due time and be there at least 20 minutes before the start of the session and deliver the presentation to the technician. **Presentation format:** Microsoft PowerPoint, Windows Version XP Electronic Support: USB only. Videos should be included in your PowerPoint. Presentation or at least be in a format that is supported by Windows Media Player.
2. We would like to ask the speakers to keep their presentations within the given time limits.
3. In case of using your own laptop, please inform the team in the Session/lecture Room, in order to prepare for this.

Poster presentations
1. Poster size width 70 cm, height 90 cm.
2. The posters should be put up in the morning from 8:30 till 10:30 of the poster presentation day and should be taken down at the end of the day.
3. At least one of the authors is expected to be at their designated poster board(s) during their poster session to present it in 3 min.

SOCIAL PROGRAMME

**26 August 2015, 19:00**
Welcome reception  
Venue: Lobby of Z. Januškevicius Hall  
Included in the registration fee. Dress code: casual

**27 August 2015, 20.30**
Young Physiologist Party  
Venue: Night club "Mojo lounge", V. Putvinskio 50, Kaunas  
Free: for EYPS participants, students. Dress code: casual

**28 August 2015, 19.00**
Gala Dinner  
Venue: Restaurant 1410, Karaliaus Mindaugo pr. 50, Kaunas  
Fee: 55 Euro. Dress code: smart casual
MAP OF VENUE

Januskevicius hall
Opening ceremony, keynote lecture and plenary session

Welcome reception

MAIN ENTRANCE

Hall 205
Workshop

Hall 202
Teaching Symposium, S1, S4, S7, S10, S13, S16

Hall 203
FEPS, S2, S5, S8, S11, S14, S17

Hall 204
S3, S6, S9, S12, S15, S18

Poster area
Registration
Lunch area
# Programme Overview

## Wednesday, August 26

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:00 – 10:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:00 – 10:15</td>
<td>Welcome</td>
</tr>
<tr>
<td>09:15 – 10:00</td>
<td>EYPS Keynote Lecture: Deniz Atasoy</td>
</tr>
<tr>
<td>10:00 – 11:15</td>
<td>Oral presentations (5 presentations)</td>
</tr>
<tr>
<td>11:15 – 11:30</td>
<td>Coffee break</td>
</tr>
<tr>
<td>11:30 – 12:00</td>
<td>EYPS Plenary lecture: M.J. Muhvany</td>
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<tr>
<td>12:00 – 13:15</td>
<td>Oral presentations (5 presentations)</td>
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<tr>
<td>13:15 – 14:00</td>
<td>Lunch</td>
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<tr>
<td>14:00 – 15:20</td>
<td>Presentations (4 presentations)</td>
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<tr>
<td>15:20 – 15:35</td>
<td>Coffee break</td>
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<tr>
<td>15:35 – 17:10</td>
<td>Presentations (4 presentations)</td>
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<tr>
<td>17:30 – 18:00</td>
<td>FEPS Opening ceremony (Z. Januškevičius hall)</td>
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<tr>
<td>18:00 – 18:45</td>
<td>FEPS Keynote lecture: Marta Fitzgerald BA PhD</td>
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<tr>
<td>19:00 – 21:00</td>
<td>Welcome reception</td>
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## Thursday, August 27

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30 – 11:00</td>
<td>Symposium 1 (Hall 202)</td>
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<tr>
<td>11:00 – 11:30</td>
<td>Coffee break</td>
</tr>
<tr>
<td>11:30 – 12:15</td>
<td>Plenary lecture I: Malenik Nedergaard (Z. Januškevičius hall)</td>
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<tr>
<td>12:15 – 14:15</td>
<td>Poster session and Lunch</td>
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<tr>
<td>14:15 – 16:45</td>
<td>Symposium 4 (Hall 202)</td>
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<tr>
<td>15:45 – 17:15</td>
<td>Coffee break</td>
</tr>
<tr>
<td>17:15 – 18:00</td>
<td>Plenary Lecture II: Friedemann Miefer (Z. Januškevičius hall)</td>
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<tr>
<td>20:30 – 23:00</td>
<td>Young Physiologist Party</td>
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## Friday, August 28

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30 – 11:00</td>
<td>Symposium 7 (Hall 202)</td>
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<tr>
<td>11:00 – 11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30 – 12:15</td>
<td>Plenary Lecture III: Rudolphe Flachmeller (Z. Januškevičius hall)</td>
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<tr>
<td>12:15 – 14:15</td>
<td>Poster session and Lunch</td>
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<tr>
<td>14:00 – 16:00</td>
<td>FEPS Council Meeting (Room 608)</td>
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<tr>
<td>14:15 – 16:45</td>
<td>Symposium 10 (Hall 202)</td>
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<td>15:45 – 17:15</td>
<td>Coffee break</td>
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<tr>
<td>17:15 – 18:00</td>
<td>Plenary Lecture IV: Margarethe Goeger (Z. Januškevičius hall)</td>
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<tr>
<td>19:00 – 23:00</td>
<td>Gala Dinner</td>
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## Saturday, August 29

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30 – 11:00</td>
<td>Symposium 13 (Hall 202)</td>
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<tr>
<td>11:00 – 11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30 – 12:15</td>
<td>Plenary Lecture V: Anders Amor (Z. Januškevičius hall)</td>
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<tr>
<td>12:15 – 13:45</td>
<td>Poster session and Lunch</td>
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<tr>
<td>13:00 – 16:00</td>
<td>Satellite Symposium of Clinical and Experimental Pharmacology</td>
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<tr>
<td>13:45 – 16:15</td>
<td>Symposium 16 (Hall 202)</td>
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<tr>
<td>16:15 – 16:30</td>
<td>Coffee break</td>
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<tr>
<td>16:30 – 16:45</td>
<td>Closing session (Hall 203)</td>
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</table>
SCIENTIFIC PROGRAMME

WEDNESDAY, 26 AUGUST 2015
Venue: New Pharmaceutical and Health Technology Centre

08:30 – 18:00 REGISTRATION

09:00 – 13:15 Lecture Hall 203
EUROPEAN YOUNG PHYSIOLOGIST SYMPOSIUM (EYPS)
Organizers: Andrea Tamas, Guler Ozturk, and Simona Stankevičiūtė

09:00 Welcome

09:15 EYPS KEYNOTE LECTURE
KN_Y
Decoding the synaptic organization of appetite circuits
Deniz Atasoy
Istanbul Medipol University, School of Medicine, Department of Physiology, Istanbul, Turkey

10:00 ORAL PRESENTATIONS

10:15 Y_1
Intestinal epithelial barrier and liver dysfunction after haemorrhagic shock in a rat model
Abderrhman Ahmed Ismeil, Hayat El-Sayaad, Gehan Sharara, Adham Abdelhamid, Radwa Mehanna, Amany Yousif
1Department of Physiology, Sinnar University, Sudan, 2Department of Physiology, 3Department of Medical Biochemistry, 4Department of Pathology, Alexandria University, Egypt

10:30 Y_2
The protective effects of obestatin on oxidative brain damage of rats with pentylentetrazol (PTZ)-induced epileptic seizures
Turkan Koyuncuoglu, Dogan Uren, Cagan Yildirim, Sefa Semih Atal, Caner Vizdiklar, Hakan Yilmaz, Elif Kervancioglu Demirci, Dilek Akakin, Meral Yuksel, Berrak C. Yegen
Physiology Department, Histology&Embryology Department, Medical Laboratory Department, Marmara University School of Medicine (MUSM), Turkey
10:45  Y_3  
**Dependence of hippocalcin signaling on the lipid composition of the plasma membrane**  
Grushevsky E, Dovgan A, Cherkas V, Belan P  
*Bogomoletz Institute of Physiology, Kiev, Ukraine*

11:00  Y_4  
**Measurement of intracellular concentrations of fluorescently-labeled targets in living cells**  
M. Yedutenko, V. P. Cherkas, A. V. Dovgan, N. I. Kononenko, T.M. Tsugorka, *P. V. Belan*  
*Laboratory of Molecular Biophysics, Department of General Physiology of the Nervous System, Bogomoletz Institute of Physiology, Kiev, Ukraine*

11:15  Y_5  
**A role of locally expressed AMP/AngIV/IRAP on glucose transport across jejunal epithelium of healthy subjects**  
Mantas Malinauskas¹,², Anna Casselbrant², Ville Wallenius², Lars Fändriks², Almantas Maleckas¹, Edgaras Stankevičius¹  
¹Institute of Physiology and Pharmacology, Medical Academy, Lithuanian University of Health Sciences, Kaunas, Lithuania, ²Department of Gastrointestinal Research and Education, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

11:15 – 11:30  **COFFEE BREAK**

11:30  **EYPS PLENARY LECTURE**  
PL_Y  
**Go for it! Why a PhD should be the path to success**  
M.J. Mulvany  
*Department of Biomedicine, Aarhus University, 8000 Aarhus C, Denmark*

12:00  **ORAL PRESENTATIONS**

12:00  Y_6  
**Magnesium sulphate inhibits spontaneous and oxytocin induced contractions of mouse myometrium**  
Blessing Osaghae, Sarah Arrowsmith and Susan Wray  
*Institute of Translational Medicine, Department of Cellular and Molecular Physiology, University of Liverpool, UK.*
12:15 Y_7

**Pharmacological influence of myometrial aquaporin 5 expression in pregnant rat**

Eszter Ducza, Adrienn Csányi, Róbert Gáspár

*Department of Pharmacodynamics and Biopharmacy, University of Szeged, Hungary*

12:30 Y_8

**Prediction of apelin-13 concentration based on the levels of thyroid hormones in rats**

Yavuz Erden¹, Suat Tekin¹, Suleyman Sandal¹, Yilmaz Cigremis², Cemil Colak³, Fatma Ozyalin⁴

¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey; ²Department of Medical Biology and Genetics, Faculty of Medicine, Inonu University, Malatya, Turkey; ³Department of Biostatistics and Medical Informatics, Faculty of Medicine, Inonu University, Malatya, Turkey; ⁴Department of Medical Biochemistry, Faculty of Medicine, Inonu University, Malatya, Turkey

12:45 Y_9

**Skeletal muscle-derived stem/progenitor cells: a potential strategy for the treatment of acute kidney injury**

Eglė Pavydė, Romaldas Mačiulaitis, Mykolas Mauricas, Gintaras Sūdžius, Ernesta Ivanauskaitė Didžiokienė, Arvydas Laurinavičius, Neringa Sutkevičienė, Edgaras Stankevičius, Justinas Mačiulaitis, Arvydas Ūsas

¹Lithuanian University of Health Sciences, Medical Academy, Institute of Physiology and Pharmacology, Kaunas, Lithuania; ²Vilnius University, Institute of Immunology, Vilnius, Lithuania; ³National Center of Pathology, affiliate of Vilnius University Hospital Santariskiu Clinics; ⁴Lithuanian University of Health Sciences, Veterinary Academy, Department of Non-infectious Diseases, Kaunas, Lithuania; ⁵Lithuanian University of Health Sciences, Medical Academy, Department of Orthopedic Surgery

13:00 Y_10

**The effect of visfatin and dyslipidaemia on uterine contractility**

Seham Alsaif and Susan Wray.

*Institute of Translational Medicine, Department of cellular & molecular physiology, University of Liverpool, UK*

13:15 – 14:00 **LUNCH**
14:00 – 17:00 Lecture Hall 202

FEPS TEACHING PHYSIOLOGY SYMPOSIUM

Organizers: Ger J. van der Vusse and Andries J. Gilde

14:00  T_1

**Blended Learning in Teaching Physiology: An Introduction**

Andries Gilde, PhD

*Departement of Physiology, Maastricht University, Maastricht, The Netherlands*

14:20  T_2

**Common understanding of PhD training: the ORPHEUS experience**

M.J. Mulvany

*Department of Biomedicine, Aarhus University, Aarhus, Denmark and Chairman, ORPHEUS Labelling Board.*

14:40  T_3

**Maastricht approach for teaching circulatory physiology: Enabling role of computer simulations in instruction and self-learning**

Reesink KD, Delhaas T, Arts T, Lumens JE

*Maastricht University, The Netherlands*

15:00  T_4

**Teaching physiology to medical students in Estonia: has this task become easier in last three decades?**

Jana Kivastik

*Department of Physiology, University of Tartu, Estonia*

15:20  **COFFEE BREAK**

15:35  **PRESENTATIONS**

15:35  T_5

**Preclinical sciences in the light of curriculum innovation and PBL introduction in LUHS Faculty of Medicine: where are we now?**

Linas Leonas¹, Andrius Macas², Igor Korotkich³, Alė Laukevičienė⁴, Dalia Akrāmiene³, Algimantas Tamelis⁴, Edgaras Stankevičius³

¹Department of Health Psychology, ²Department of Anaesthesiology, ³Institute of Physiology and Pharmacology, ⁴Department of Surgery, Lithuanian University of Health Sciences (LUHS), Kaunas, Lithuania
Joint Meeting of the FEPS and the Baltic Physiological Societies

SCIENTIFIC PROGRAMME, Wednesday, 26 August 2015

15:55 T_6
Study of motivational factors in Lithuanian University of Health Sciences
Simona Stankevičiūtė, Martynas Gedminas, Vytenis Simenas, Skirmante Sauliūnė
Lithuanian University of Health Sciences, Academy of Medicine, Kaunas, Lithuania

16:15 T_7
Motivating health sciences students to learn actively and think critically about physiology
Ivna Kocijan
Univ. of Applied Health Sciences, Zagreb, Croatia

16:35 T_8
Teaching and research physiology at the medical faculties in the Czech Republic
Richard Rokyta¹, Jitka Fricová²
¹Charles University in Prague, Third Faculty of Medicine, Department of Normal, Pathological and Clinical Physiology, Prague; ²First Faculty of Medicine and General University Hospital, Pain Management Center, Prague, Czech Republic

16:55 CLOSING REMARKS

17:10 BREAK

17:30 FEPS MEETING OPENING CEREMONY
Venue: Z. Januškevičiaus hall

17:30 OPENING CEREMONY

18:00 FEPS KEYNOTE LECTURE
Chair: David Eisner

KNL
The developing pain system: a lifelong story
Maria Fitzgerald
Dept. Neuroscience, Physiology & Pharmacology, University College London, UK

18:45 BREAK

19:00 – 21:00 WELCOME RECEPTION
THURSDAY, 27 AUGUST 2015

08:30 – 11:15  Lecture hall 202  
SYMPOSIUM 1:  
Calcium regulation in striated muscle: failure and fatigue  
Organizer: David Eisner

INVITED PRESENTATIONS

08:30  S1-1  
New insights into fatigue and failure in myometrium  
Susan Wray  
University of Liverpool, UK

08:55  S1-2  
Transverse tubules and cardiac calcium handling  
William E Louch  
Institute for Experimental Medical Research, University of Oslo, Oslo, Norway

09:20  S1-3  
The role of calcium in the atrium  
JD Clarke, JL Caldwell, C Pearman, CER Smith & KM Dibb  
Institute of Cardiovascular Sciences, University of Manchester, UK

09:45  S1-4  
Calcium and fatigue in skeletal muscle  
Håkan Westerblad  
Department of Physiology & Pharmacology, Karolinska Institutet, Stockholm

ORAL PRESENTATIONS

10:10  S1-O1  
Characterization of the effects of pro-inflammatory cytokines on energy metabolism in human myogenic cells  
Kalju Paju¹, Ehte Orlova¹, Reedik Paasuke¹, Nadežda Peet¹, Margus Eimre¹, Andres Piirsoo²  
¹Department of Pathophysiology, ²Department of Biomedicine, University of Tartu, Tartu, Estonia
10:25  S1-O2

**Emergence of Orai3 activity during cardiac hypertrophy**

SALIBA Youakim¹,², KECK Mathilde¹, MARCHAND Alexandre¹, ATASSI Fabrice¹, OUILLE Aude³, CAZORLA Olivier³, TREBAK Mohamed⁴, PAVOINE Catherine¹, LACAMPAGNE Alain³, HULOT Jean-Sébastien⁵, FARÈS Nassim², FAUCONNIER Jérémy³, LOMPRÉ Anne-Marie¹

¹Sorbonne Universités UPMC, Inserm UMR_S 1166, ICAN, Paris, France; ²Laboratoire de Recherche en Physiologie et Physiopathologie, Université Saint Joseph, Lebanon; ³Université Montpellier 1&2, Inserm U1046, Montpellier, France; ⁴SUNY College of Nanoscale Science and Engineering, Albany, NY, USA; ⁵Cardiovascular Research Center, Icahn School of Medicine, Mount Sinai, NY, USA.

10:40  S1-O3

**Action potential clamp data analysis reveals large contribution of sarcoplasmic reticulum in excitation-contraction coupling of trout cardiomyocytes**

Martin Laasmaa, Pearu Peterson, Marko Vendelin, Rikke Birkedal

11:00 – 11:30  COFFEE BREAK

08:30 – 11:15  Lecture Hall 203

**SYMPOSIUM 2:**

Role of glial neurotransmitters receptors in central and peripheral nervous system development and regeneration

Organizer: Alessandro Faroni

**INVITED PRESENTATIONS**

08:30  S2-1

**Role of P2X₇ receptors in the development, maintenance and repair of peripheral nerves**

Alessandro Faroni

Institute of Inflammation and Repair, University of Manchester, UK; Laboratory of Systems Biology, Institute of Cybernetics, Tallinn University of Technology, Estonia

09:00  S2-2

**GABAergic control of myelination and nociception in peripheral nervous system**

Valerio Magnaghi

Department of Pharmacological and Biomolecular Sciences, Università degli Studi di Milano, Italy.
09:30  S2-3

A structured synaptic connectivity between GABAergic interneurons and oligodendrocyte precursors in the developing somatosensory cortex

María Cecilia Angulo
Neurophysiology and New Microscopies Laboratory, INSERM U1128, University Paris Descartes, Paris, France

10:00  S2-4

Neurotransmission in CNS white matter: where are synapses?

Arthur M. Butt
Institute for Biomedical and Biomolecular Sciences, University of Portsmouth, UK

ORAL PRESENTATIONS

10:30  S2-O1

The K⁺ efflux through postsynaptic NMDA receptors regulates astrocytic glutamate uptake

Olga Tyurikova, Pey-Yu Shih, Leonid Savtchenko, Dmitri Rusakov, Alexey Semyanov
Lobachevsky State University of Nizhny Novgorod; Purdue University; UCL Institute of Neurology

11:00 – 11:30  COFFEE BREAK

08:30 – 11:00  Lecture hall 204

SYMPOSIUM 3:
Molecular mechanisms of endothelium physiology in health and diseases
Organizer: Jozef Dulak

INVITED PRESENTATIONS

08:30  S3-1

On the physiology of vascular permeability

Lena Claesson-Welsh
Uppsala University, Dept. Immunology, Genetics and Pathology, Rudbeck Laboratory, Uppsala, Sweden
09:00  S3-2

Regulation of vascular development and angiogenesis by the ETS transcription factor ERG

Graeme M. Birdsey1, Aarti V. Shah1, Anna M. Randi1, and colleagues

1National Heart and Lung Institute (NHLI) Vascular Sciences, Hammersmith Hospital, Imperial College London, London, UK.

09:30  S3-3

microRNAs in tissue regeneration and revascularization

Urszula Florczyk, Bart Krist, Mateusz Mendel, Alicja Józkowicz, Józef Dulak

Department of Medical Biotechnology, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, 30-387 Krakow, Poland

10:00  S3-4

Angiogenic Gene Therapy

Seppo Yla-Herttuala1,2,3

1A.I.Virtanen Institute, University of Kuopio, Kuopio, Finland; 2Department of Medicine, University of Kuopio, Kuopio, Finland; 3Gene Therapy Unit, Kuopio University Hospital, Kuopio, Finland

ORAL PRESENTATIONS

10:30  S3-O1

Deletion of the NADPH oxidase organizing protein NoxO1 promotes angiogenesis

Katrin Schröder, Sabine Harenkamp, Christoph Schürman, Juri Vogel, Beliza Rashid, Flavia Rezende, Ralf P. Brandes

Vascular Research Centre, Goethe University, Frankfurt, Germany

10:45  S3-O2

\(K_{\text{ATP}}, K_{\text{7}}\) and \(BK_{\text{Ca}}\) channels in the regulation of contractile responses of rat saphenous arteries during early postnatal ontogenesis

Anastasia Shvetsova1,2, Dina Gaynullina1,2, Rudolf Schubert3, Olga Tarasova1,2.

1SRC RF Institute for Biomedical Problems RAS, Moscow, Russia
2Faculty of Biology, Lomonosov Moscow State University, Moscow, Russia
3Heidelberg University, Medical Faculty Mannheim, Germany

11:00 – 11:30  COFFEE BREAK
11:30 – 12:15  Z. Januškevičiaus hall

PLENARY LECTURE 1
Chair: Alexei Verkhratsky

PL-1
The physiological functions of astrocytes is controlled by the sleep-wake cycle
Maiken Nedergaard
Center for Basic and Translational Neuroscience, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark

12:15 – 12:45  LUNCH

POSTER SESSION

12:45 – 14:15  POSTER AREA

P1  CARDIOVASCULAR PHYSIOLOGY
Posters P1-1 to P1-18
Chair: Jozef Dulak and Edgaras Stankevičius

P1-1 Human H2 receptors in a mouse model and the endogenous cardiac histamine content
Meister J, Weisgut J, Buchwalow I, Gergs U, Neumann J
Institute for Pharmacology and Toxicology, Medical Faculty, Martin-Luther-University Halle-Wittenberg, 06097 Halle (Saale), Germany; Institute for Hematopathology, 22547 Hamburg, Germany

P1-2 The effects of beta amyloid peptide 22-35 on isolated and perfused rat hearts
Neda Yousefırad¹, Ziya Kaygısız¹ and Yasemin Aydın¹
¹Department of Physiology, Medical Faculty, Eskisehir Osmangazi University, Eskisehir, Turkey

P1-3 The Effects of beta amyloid peptide 1-42 on isolated rat hearts
Ziya Kaygısız, Neda Yousefırad, Yasemin Aydın
Department of Physiology, Medical Faculty, Eskisehir Osmangazi University, Eskisehir, Turkey
P1-4 **Experimental diabetes mimics pulmonary hypertension induced by mild chronic hypoxia in rats**  
Vajnerova, O., Kratzerova, T., Durisova, J., Mikova, D., Hampl, V., Herget, J.  
*Dept. Physiology, Charles University, 2nd Medical Faculty, Prague, Czech Republic*

P1-5 **Effects of diadenosine polyphosphates on bioelectrical and contractile activity of the rat heart**  
K.B. Pustovit, V.S. Kuzmin, D.V. Abramochkin  
*Biological department of Lomonosov Moscow State University, Moscow, Russia*

P1-6 **Effect of oxytocin on L-NAME induced hypertension and chronic stress in rats**  
Dursun E¹, Aykan M¹, Vatan M¹, Yurtcan H¹, Arpacı D¹, Buzcu H¹, Cumbul A², Uslu Ü², Yildirim A¹  
¹Marmara University Medical Faculty, Istanbul, Turkey; ²Yeditepe University Medical Faculty, Istanbul, Turkey

P1-7 **Ketamine/xylazine anaesthesia in the chronobiological cardiovascular studies**  
P. Svorc¹,², P. Svorc,Jr.², M. Novakova¹, I. Bacova¹  
¹Department of Physiology, Medical Faculty, University P.J.Safarik, Kosice, Slovakia; ²Department of Physiology and Pathophysiology, Medical Faculty, Ostrava University, Ostrava, Czech Republic

P1-8 **Increased erythrocyte aggregation in patients with primary open angle glaucoma**  
Ermine Kilic-Toprak¹, Ibrahim Toprak², Ozgen Kilic-Erkek¹, Vural Kucukatay¹, Melek Bor-Kucukatay¹  
¹Pamukkale University, Faculty of Medicine, Department of Physiology, Denizli, Turkey; ²Department of Ophthalmology, Servergazi State Hospital, Denizli, Turkey

P1-9 **Investigation of hemorheological parameters in patients with interstitial lung diseases**  
Erhan Ugurlu¹, Ermine Kilic-Toprak², Göksel Altinisik¹, Ozgen Kilic-Erkek², Betul Cengiz¹, Vural Kucukatay², Hande Senol³, Ismail Hakki Akbudak⁴, Melek Bor-Kucukatay²  
¹Pamukkale University, Faculty of Medicine, Department of Chest Disease, Denizli, Turkey; ²Pamukkale University, Faculty of Medicine, Department of Physiology, Denizli, Turkey; ³Pamukkale University, Faculty of Medicine, Department of Biostatistics, Denizli, Turkey; ⁴Pamukkale University, Faculty of Medicine, Department of Internal Medicine, Denizli, Turkey
P1-10 *In vitro effect of nesfatin-1 on contractions in the rat thoracic aorta*
Barutcu A¹, Kacar E¹, Ercan Z¹, Kocaman N³, Serhatlioglu I¹, Kelestimur H¹
Firat University, Faculty of Medicine, Department of ¹Physiology, ²Biophysics, ³Histology and Embryology, Elazig, Turkey

P1-11 *Assessment of Carotid Stiffness with Vector Velocity Imaging*
V. Behaghel¹², L. Omarjee¹, A. Barriert, O. Brière, G. Lefthériotis¹
¹ Université d'Angers, CHU d'Angers, Service d'Explorations Fonctionnelles Vasculaires, BNMI-Inserm 1083 - CNRS 6214, Angers, France; ² Université d'Angers, CHU d'Angers, Service de Cardiologie, Angers, France

P1-12 *Adrenergic regulation of bioelectrical activity of rat pulmonary veins myocardium*
VM Karimova, VS Kuzmin
Biological department, Moscow State University, Russia

P1-13 *Molecular basis of sinus bradycardia in hypothyroidism*
Sunil Jit R J Logantha¹, Dilek Ozbeyli², Joseph Yanni¹, Halina Dobrzynski¹, Ozgur Kasimay², Mark R. Boyett¹
¹ University of Manchester, U.K.; ² Marmara University School of Medicine, Turkey

P1-14 *The effect of aliskiren, captopril and spironolacton on blood pressure and nitric oxide production in left ventricle of SHR*
Martina Cebová, Jana Klimentová, Andrej Barta, Zuzana Matúšková, Radoslava Reháková, Olga Pechánová
Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Bratislava, Slovak Republic

P1-15 *Effects of chronic and acute zinc sulphate supplementation on myocardial ischemia-reperfusion injury in rats*
Serhan Ozyildirim¹, Abdulkerim Kasim Baltaci¹, Engin Sahna², Rasim Mogulkoc¹, Neyhan Ergene³
¹ Selcuk University, Faculty of Medicine, Department of Physiology, Konya, Turkey; ² Firat University, Meram Faculty of Medicine, Department of Pharmacology, Elazig, Turkey; ³ Karatay University, Faculty of Medicine, Department of Physiology, Konya, Turkey
P1-16 Connexin 43 expression and gap junction permeability is differently regulated by heat stress-activated c-Jun N-terminal kinase in HeLa cells and skeletal myoblasts

Ieva Antanavičiūtė¹, Edgaras Stankevičius², V. Arvydas Skeberdis¹²

¹Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania; ²Institute of Physiology and Pharmacology, Lithuanian University of Health Sciences, Kaunas, Lithuania

P1-17 The effect of central serotonin concentration changes on respiratory regulation

Gulderen Sahin, Onur M Yaman, Ibrahim Guner, Nermin Yelmen

Istanbul University Cerrahpaşa Medical Faculty Department of Physiology, Turkey

P1-18 Respiratory alterations elicited by chronic long-term intermittent hypobaric hypoxia in rabbits

Nermin Yelmen, Ibrahim Guner, M. Onur Yaman, Gulderen Sahin

Department of Physiology, Cerrahpasa Medical Faculty, Istanbul University, Istanbul, Turkey

P1-20 The effects of copper application on oxidative and antioxidant systems in rats

Selmin Toplan¹, Nuran Dariyerli², Derviş Ozcelik¹ and Mehmet Can Akyolcu¹

¹Department of Biophysics; ²Department of Physiology, Istanbul University, Cerrahpasa Medical Faculty, Istanbul, Turkey

P2 MUSCLE PHYSIOLOGY

Posters P2-1 to P2-15

Chair: Katharine Dibb and Aivaras Ratkevičius

P2-1 The effects of normobaric hypoxic exercise and docosahexaenoic acid in total protein and protein oxidation on plantaris muscle of rats

Ridvan Çolak

High School of Physical Education and Sports, Ardahan University, Ardahan, Turkey

P2-2 Can data smoothing influence the assessment of oxygen uptake kinetics?

Jaak Talts¹, Jana Kivastik¹, Mati Arend², Jarek Mäestu²

¹Department of Physiology, ²Institute of Exercise Biology and Physiotherapy, University of Tartu, Estonia
P2-3 Evaluation of the effects of simvastatin on energy metabolism in muscle tissue during early phase of sepsis
Elif Ozkok¹, Hatice Yorulmaz², Gulten Ates³, Abdullah Aksu⁴, Nuray Balkis⁴, Sule Tamer³
¹Department of Neuroscience, The Institute for Experimental Medicine, Istanbul University, Turkey; ²Faculty of Medicine, Haliç University, Turkey; ³Department of Physiology, Istanbul Medical Faculty, Istanbul University, Turkey; ⁴Department of Chemical Oceanography-Institute of Marine Sciences and Manangement, Istanbul University, Turkey.

P2-4 The effect of kinesio taping on functional performance assessment among young female basketball players with chronic ankle instability
Safinaz Yıldız, Berivan Kılıç, Türker Şahinkaya
Department of Sports Medicine, Istanbul University, Istanbul, Turkey

P2-5 Effects of the beta amyloid peptide 22–35 and 1-42 on the isolated rat ileum smooth muscle
Yasemin Aydın, Neda Yousefiran and Ziya Kaygisiz
Department of Physiology, Medical Faculty, Eskisehir Osmangazi University, Eskisehir, Turkey

P2-6 Effects of 12-week programme of spine-stabilizing exercises on trunk muscles area, strength and function in women with chronic low back pain
Saule Sipavičienė¹, Oksana Vaščenkovienė¹, Šarūnas Klizas², Irina Klizienė³
¹Department of Applied Biology and Rehabilitation, Lithuanian Sports University, Kaunas, Lithuania; ²Department of Health Psychology, Lithuanian University of Health Sciences, Kaunas, Lithuania; ³Department of Education Science, Kaunas University of Technology, Kaunas, Lithuania

P2-7 Comparison of the effect of local microvibration and pulsed electromagnetic field application on bone fracture
Hakki Murat Bilgin¹, Ferhat Celik¹, Veysi Akpolat², Ismail Yildiz ³, Aysun Ekinci⁴, Mehmet Gem⁵
¹Dicle University, Faculty of Medicine, Department of Physiology¹, Biophysics², Biostatistics³, Biochemistry⁴, Ortopedics and Traumatology, Diyarbakir, Turkey

P2-8 Analysis of energy expenditure in adults using Actiheart and self-administered questionnaire
Lagzdina Rudite, Rumaka Maija
Department of Human Physiology and Biochemistry, Riga Stradiņš University, Latvia
P2-9 The evaluation of tibial torsion angle after anterior cruciate ligament reconstruction
Galip Bilen Kürklü¹, Z. İşık Solak Görmüş², Mehmet Mesut Çelebi³, Ali Murat Zergeroğlu³
¹Department of Sports Medicine, ²Physiology, Meram Medical School, Necmettin Erbakan University, Konya, Turkey; ³Department of Sports Medicine, Medical School, Ankara University, Ankara, Turkey

P2-10 Electromyographic detection of pregnant uterine activity
Kalman F. Szucs, Zita Tiszai, Robert Gaspar
Department of Pharmacodynamics and Biopharmacy, University of Szeged, Hungary

P2-11 The response of coenzyme Q10 and oxidative stress to exercise training alone and combined with coenzyme Q10 treatment in aged rats
Muaz Belviranlı, Nilsel Okudan
Selçuk University, School of Medicine, Turkey

P2-12 The effects of omega-3 fatty acids on exercise induced bronchospasm in nonasthmatic obese and non-obese children
Ayse Özdemir¹, Nilsel Okudan², Sevil Ari Yuca³, Muaz Belviranlı³, Hakki Gökbel²
¹Physiology, Necmettin Erbakan University, Konya, Turkey; ²Physiology, Selçuk University, Konya, Turkey; ³Pediatry, Selçuk University, Konya, Turkey

P2-13 The effect of melatonin on rats gastrocnemius muscle applied with carbontetrachloride
Duygu Fevziye Vural, Suna Cebesoy
Ankara University, Faculty of Science, Department of Biology Ankara, Turkey

P2-14 The effects of anaerobic threshold on $V_{E}/VCO_{2}$ and $V_{E}/VO_{2}$ during incremental exercise and constant load exercise test.
Sermin Algul¹, F. Ahmet Ugrur¹, Ahmet Ayar² and Oguz Ozcelik¹
¹Department of Physiology, Fırat University, Elazig, Turkey; ²Department of Physiology, Karadeniz Teknik University, Trabzon, Turkey
P2-15 Predictive models forecast relationships of apelin-13 concentrations with UCP1 in WAT and BAT, and UCP3 in muscle
Suat Tekin¹, Yavuz Erden¹, Suleyman Sandal¹, Ebru Etem², Cemil Colak³
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey;
²Department of Genetics, Faculty of Medicine, Firat University, Elazig, Turkey;
³Department of Biostatistics and Medical Informatics, Faculty of Medicine, Inonu University, Malatya, Turkey

P5 PHYSIOLOGY TEACHING
Posters P5-1P5-2
Chair: Katharine Dibb and Aivaras Ratkevičius

P5-1 Continuous and noninvasive recording of cardiovascular parameters enhances understanding of physiology
Kersti Jagomaq, Rein Raamat, Jaak Talts, Jana Kivastik
Department of Physiology, University of Tartu, Estonia

P5-2 How to conduct seminars in integrative physiology?
Kertu Rünkorg, Aavo Lang, Ain Reimets, Jana Kivastik
Department of Physiology, University of Tartu, Tartu, Estonia

P3 ENDOCRINE SYSTEM PHYSIOLOGY
Posters P3-1 to P3-13
Chair: Karl Heinz Herzig and Dalia Akramiené

P3-1 Protective effects of silymarin on methotrexate-induced testicular damage in rats
Durrin Ozlem Dabak¹, Nevin Kocaman¹
¹Department of Histology and Embryology, Firat University, School of Medicine, Elazig, Turkey

P3-2 The levels of NOS in rat testicular tissue damage created by diabetes and pentoxifylline therapy
Mehmet Fatih SÖNMEZ, Eser KILIÇ, Derya KARABULUT, Kübra Tuğçe Çilenk, Erkan Deligönül, Munis DÜNDAR
Erciyes University, Faculty of Medicine, Department Of Histology and Embryology and Department of Medical Biochemistry, Turkey
P3-3  *In vitro* effect of agomelatine on spontaneous and oxytocin-induced contractions in the rat myometrium

Kacar E¹, Ercan Z¹, Serhatlioglu I¹, Kelestimur H²

*Firat University, Faculty of Medicine, ¹Department of Physiology & ²Biophysics, Elazig, Turkey*

P3-4  The effects of zinc supplementation on oxidative stress and insulin secretion in B-cell with type-I diabetes mellitus-induced by streptozotocin

Eylem TASKIN¹, Celal GUVEN², Sahin YESILDAG³, Mufide AHBAB⁴, Ozge OZDEMIR¹, Talar CILACI¹, Turkan MERDOL⁵

¹Department of Physiotherapy and Rehabilitation, School of Health Sciences, Istanbul Bilim University, Turkey; ²Department of Biohysics, Faculty of Medicine, University of Adiyaman, Turkey; ³Department of Nutrition and Dietetics, School of Health Sciences, Istanbul Bilim University, Turkey; ⁴PhD from Department of Biology, Faculty of Arts and Science, University of Hacettepe, Turkey; ⁵Department of Nutrition and Dietetics, Faculty of Health Sciences, Okan University, Turkey

P3-5  The elevation of insulin secretion in streptozotocin-induced B-cell by zinc supplementation

Celal GUVEN¹, Eylem TASKIN², Sahin YESILDAG³, Mufide AHBAB⁴, Talar CILACI², Ozge OZDEMIR², Turkan MERDOL⁵

¹Department of Biohysics, Faculty of Medicine, University of Adiyaman, Adiyaman-Turkey; ²Department of Physiotherapy and Rehabilitation, School of Health Sciences, Istanbul Bilim University, Istanbul-Turkey; ³Department of Nutrition and Dietetics, School of Health Sciences, Istanbul Bilim University, Istanbul-Turkey; ⁴PhD from Department of Biology, Faculty of Arts and Science, University of Hacettepe, Ankara-Turkey; ⁵Department of Nutrition and Dietetics, Faculty of Health Sciences, Okan University, Istanbul-Turkey

P3-6  The effect of resveratrol supplementation on plasma leptin and liver glycogen levels in rats with acute swimming exercise

Mursel Oguzhan Duran¹, Abdulkerim Kasim Baltaci¹, Rasim Mogulkoc¹, Mustafa Cihat Avunduk², Neyhan Ergene³

¹Selcuk University, Faculty of Medicine, Department of Physiology Konya-Turkey; ²Necmettin Erbakan University, Meram Faculty of Medicine, Department of Pathology, Konya-Turkey; ³Karatay University, Faculty of Medicine, Department of Physiology, Konya-Turkey
P3-7 Lithium-induced hypothyroidism: Oxidative stress and osmotic fragility status in rats
Selmin Toplan¹, Nuran Dariyerli², Semra Ozdemir¹, Dervis Ozcelik¹, Emel U. Zengin³, Mehmet C. Akyolcu¹
¹Department of Biophysics; ²Department of Physiology; ³Department of Biochemistry, Istanbul University, Cerrahpasa Medical Faculty, Istanbul, Turkey

P3-8 Bone metabolism in chronic ethanol treated ovariectomized rats: The role of nitric oxide
Simsek G¹, Uzun H², Aydin S², Benian A³, Dariyerli N¹.
¹Istanbul University, Cerrahpasa Medical Faculty, Department of Physiology, Turkey; ²Istanbul University, Cerrahpasa Medical Faculty, Department of Biochemistry, Turkey; ³Istanbul University, Cerrahpasa Medical Faculty, Department of Gynecology and Obstetrics, Turkey

P3-9 Alteration in the expression and function of alpha1-adrenergic receptor subtypes in late pregnant rat uterine by progesterone and oestrogen pre-treatment
Judit Bóta¹, Judit Hajagos-Tóth¹, Eszter Ducza¹, Reza Samavati², Anna Borsodi², Sándor Benyhe², Róbert Gáspár¹
¹Department of Pharmacodynamics and Biopharmacy, University of Szeged, Szeged, Hungary; ²Institute of Biochemistry, Biological Research Centre, Szeged, Hungary

P3-10 Serum levels of apelin and visfatin in patients with obstructive sleep apnea syndrome
Ceylan Ayada¹, Ümran Toru², Osman Genç¹, Hasan Simsek¹, Server Sahin³, Özlem Admis⁴, Ali Nihat Annakkaya⁵
¹Department of Physiology, University of Dumlupinar, Kütahya, Turkey; ²Department of Chest Diseases, University of Dumlupinar, Kütahya, Turkey; ³Department of Medical Biology, University of Dumlupinar, Kütahya, Turkey; ⁴Department of Biochemistry, University of Düzce, Düzce, Turkey; ⁵Department of Chest Diseases, University of Düzce, Düzce, Turkey

P3-11 Serum levels of growth hormone in patients with obstructive sleep apnea syndrome
Ceylan Ayada¹, Ümran Toru², Osman Genç¹, Hasan Simsek¹, Server Sahin³, Özlem Admis⁴, Ali Nihat Annakkaya⁵
¹Department of Physiology, University of Dumlupinar, Kütahya, Turkey; ²Department of Chest Diseases, University of Dumlupinar, Kütahya, Turkey; ³Department of Medical Biology, University of Dumlupinar, Kütahya, Turkey; ⁴Department of Biochemistry, University of Düzce, Düzce, Turkey; ⁵Department of Chest Diseases, University of Düzce, Düzce, Turkey
P3-12 **Serum levels of leptin and nesfatin in patients with obstructive sleep apnea syndrome**

Ceylan Ayada¹, Ümran Toru², Osman Genç¹, Hasan Simsek¹, Server Sahin³, Özlem Admis⁴, Ali Nihat Annakkaya³

¹Department of Physiology, University of Dumlupinar, Kütahya, Turkey; ²Department of Chest Diseases, University of Dumlupinar, Kütahya, Turkey; ³Department of Medical Biology, University of Dumlupinar, Kütahya, Turkey; ⁴Department of Biochemistry, University of Düzce, Düzce, Turkey; ⁵Department of Chest Diseases, University of Düzce, Düzce, Turkey

P3-13 **Serum levels of obestatin and adiponectin in patients with obstructive sleep apnea syndrome**

Ceylan Ayada¹, Ümran Toru², Osman Genç¹, Hasan Simsek¹, Server Sahin³, Özlem Admis⁴, Ali Nihat Annakkaya³

¹Department of Physiology, University of Dumlupinar, Kütahya, Turkey; ²Department of Chest Diseases, University of Dumlupinar, Kütahya, Turkey; ³Department of Medical Biology, University of Dumlupinar, Kütahya, Turkey; ⁴Department of Biochemistry, University of Düzce, Düzce, Turkey; ⁵Department of Chest Diseases, University of Düzce, Düzce, Turkey

P4 **GASTROINTESTINAL PHYSIOLOGY**

Posters P4-1 to P4-5

Chair: Karl Heinz Herzig and Dalia Akramienė

P4-1 **Effects of silymarin on methotrexate-induced hepatotoxicity in rats**

Nevin Kocaman¹, Durrin Ozlem Dabak¹

¹Department of Histology and Embryology, Firat University, School of Medicine, Elazig, Turkey

P4-2 **The protective effects of carnosine in carbon tetrachloride induced liver injury in rats: biochemical and immunohistochemical study**

Nurhan KULOĞLU, Mehmet Fatih SÖNMEZ

Erciyes University, Faculty of Medicine, Department of Histology and Embryology, Kayseri, Turkey

P4-3 **Potential protective role of ethyl pyruvate on haemostatic disturbances in rats with acute liver injury**

Ebru Çetin, Nazmi Çetin

Department of Physiology, Faculty of Veterinary Medicine, Erciyes University, Turkey
P4-4 **DSS-induced inflammation and regulation of reelin gene expression in mouse colon**
Carvajal AE, Vázquez-Carretero MD, Peral MJ, Illundáin AA, Calonge ML
*Department of Physiology, University of Sevilla, Sevilla, Spain*

P4-5 **Effects of reelin and DSS-induced inflammation on gene expression and that of reelin on tissue reparation in mice colon**
Carvajal AE, Vázquez-Carretero MD, Calonge ML, Illundain AA, Peral MJ
*Department of Physiology, University of Sevilla, Sevilla, Spain*

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**SCIENTIFIC PROGRAMME**

14:15 – 16:45  **Lecture hall 202**

**SYMPOSIUM 4:**
**Vascular Smooth Muscle Cell (Patho)Physiology 2015 – An Update**
Organizers: Ulrich Pohl and Markus Hecker

**INVITED PRESENTATIONS**

14:15  **S4-1**
**On the anti-mitogenic effects of cyclic AMP in vascular smooth muscle cells**
Andrew Newby, Mark Bond
*University of Bristol, UK*

14:40  **S4-2**
**Role of inflammation and vascular tone in flow-dependent arterial remodeling**
Ed van Bavel
*Dept of Biomedical Engineering and Physics, AMC Amsterdam, The Netherlands*

15:05  **S4-3**
**Role of smooth muscle microRNAs in the regulation of calcium signaling and vascular tone**
Anirban Bhattachariya, Diana Dahan, Karolina Turczynska, Karl Swärd, Per Hellstrand and Sebastian Albinsson
*Department of Experimental Medical Science, Lund University, Lund, Sweden*
Joint Meeting of the FEPS and the Baltic Physiological Societies

SCIENTIFIC PROGRAMME, Thursday, 27 August 2015

15:30  S4-4

**G-protein signaling in smooth muscle cell differentiation and vascular remodeling**

Caroline Arnold, Markus Hecker, Thomas Korff

*Department of Cardiovascular Physiology, University of Heidelberg, Germany*

**ORAL PRESENTATIONS**

15:55  S4-O1

**Vascular Notch3 deficiency induces polyuria in mice**

Jean-Claude Dussaule¹, Dominique Guerrot², Claire Trivin¹, Anne Joutel³, Sandrine Placier¹, Christos Chatziantoniou¹

¹Unit INSERM 1155, Pierre et Marie Curie University, Paris, France; ²Unit INSERM 1096, Rouen, France; ³INSERM, U1161 and University Paris Diderot, Paris, France

16:10  S4-O2

**The effect of progesterone on the expression and function of the different alpha2-adrenergic receptor subtypes in late pregnant rat myometrium**

Judit Hajagos-Tóth¹, Judit Bóta¹, Eszter Ducza¹, Reza Samavati², Sándor Benyhe², Róbert Gáspár¹

¹Department of Pharmacodynamics and Biopharmacy, University of Szeged, Szeged, Hungary; ²Institute of Biochemistry, Biological Research Centre, Szeged, Hungary

16:25  S4-O3

**Lentiviral magnetic microbubbles enable targeted vascular gene transfer**

Yvonn Stampnik¹, Anita Kretschmann², Dietmar Eberbeck³, Markus Wörnle⁴, Martina Anton⁵, Ulrich Pohl¹, Hanna Mannell¹

¹Walter-Brendel-Centre, 4 Medical Policlinic IV, LMU Munich, Germany; ²Institut für Pharmakologie und Toxikologie, Bonn University, Germany; ³PTB, Berlin, Germany; ⁴Institute of Experimental Oncology and Therapy Research, KRI, TUM, Germany

16:45 – 17:15  **COFFEE BREAK**
14:15 – 16:45  Lecture hall 203

SYMPOSIUM 5:
New forms of cell death in physiology and pathology
Organizers: Vilmantė Borutaitė and Guy Brown

INVITED PRESENTATIONS

14:15  S5-1
Many ways to die, and mitochondria in the centre
Vilmantė Borutaitė
Lithuanian University of Health Sciences, Kaunas, Lithuania

14:45  S5-2
Regulation of RIPKs in cell survival and cell death by apoptosis and necroptosis, insights and therapeutic potential
Peter Vandenabeele\textsuperscript{1,2,3}
\textsuperscript{1}VIB Inflammation Research Center, Technologiepark 927, Zwijnaarde-Ghent, 9052, Belgium; \textsuperscript{2}Department of Biomedical Molecular Biology, Ghent University, Technologiepark 927, Zwijnaarde-Ghent, 9052, Belgium; \textsuperscript{3}Methusalem program, Ghent University, Technologiepark 927, Zwijnaarde-Ghent, 9052, Belgium

15:15  S5-3
MLKL mediates necroptosis in kidney tubules
Andreas Linkermann
CAU, Kiel, Germany

15:45  S5-4
Phagoptosis – cell death by primary phagocytosis – contributes to inflammatory neuronal loss and defence against cancer
Guy C Brown
Department of Biochemistry, University of Cambridge, UK

ORAL PRESENTATIONS

S5-O1 (moved to Poster session P7-7)
16:15  S5-O2

The Investigation of Astaxanthin Effect on Fatty Acid Values in Liver and Kidney Tissues of Rats which Exposed to Nicotine

Alpaslan Dayangaç¹, H. Turan Akkoyun², Sevinç Aydı̇n³, Mahire Bayramoğlu Akkoyun⁴, Muammer Bahşi⁵, Gülistan Akbaş¹, Taylan Aktaş⁶, Ökkeş Yılmaz⁷

¹Ahi Evran University, Art & Science Faculty, Department of Biology, Kırşehir, Turkey; ²Siirt University, Veterinary Faculty, Department of Physiology, Siirt, Turkey; ³Giresun University, Espiye Vocational School, Department of Property Conservation & Safety, Giresun, Turkey; ⁴Siirt University, Veterinary Faculty, Department of Biochemistry, Siirt, Turkey; ⁵Fırat University, Faculty of Education, Department of Primary School Education, Elazığ, Turkey; ⁶Ahi Evran University, Çiçekdağı Vocational School, Department of Laboratorian & Veterinary Health, Kırşehir, Turkey; ⁷Fırat University, Faculty of Science, Department of Biology, Elazığ, Turkey

S5-O3 (moved to Poster session P1-36)

16:45 – 17:15  COFFEE BREAK

14:15 – 16:45  Lecture hall 204

SYMPOSIUM 6:
Novel and old drivers of browning

Organizers: Karl Heinz Herzig

INVITED PRESENTATIONS

14:15  S6-1

The interaction of genetics and environment in the realization of brown adipocytes

Leslie P. Kozak

Polish Academy of Sciences, Olsztyn, Poland

14:45  S6-2

Cross-talk between adipokines and myokines in fat browning

Armaia Rodríguez

Metabolic Research Laboratory, Clínica Universidad de Navarra, CIBERobn, Pamplona, Spain.

15:15  S6-3

Immunodetection of plasma irisin

Kari A. Mäkelä¹

¹Institute of Biomedicine, and Biocenter of Oulu, University of Oulu, Oulu, Finland
15:45  S6-4

**Browning of white fat: What is the driving force?**

Juergen Eckel

*German Diabetes Center, Paul-Langerhans-Group for Integrative Physiology, Düsseldorf, Germany*

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**ORAL PRESENTATIONS**

16:15  S6-O1

**Anti-inflammatory effects of nesfatin-1 in rats with acetic acid induced colitis: role of ghrelin receptors**

Cigdem Cantali OZTURK¹, Sehkar OKTAY², Meral YUKSEL³, Dilek AKAKIN⁴, Aysen YARAT², Ozgur KASIMAY¹

¹Marmara University School of Medicine, Department of Physiology, Istanbul, Turkey;
²Marmara University Faculty of Dentistry, Department of Biochemistry, Istanbul, Turkey;
³Marmara University Vocational School of Health Related Services, Istanbul, Turkey;
⁴Marmara University School of Medicine, Department of Histology and Embryology, Istanbul, Turkey

16:30  S6-O2

**Na⁺/H⁺ exchanger NHE1 and NHE2 activities have an opposing effect on experimental wound healing velocity in the rat gastric surface cell line RGM1**

Anja Klöpper, Giriprakash Chodisetti, Zhenglin Yuan, Florian Busch, Brigitte Riederer, Manoj Menon, Andreas Schneider, Renata Stripecke, Albrecht Schwab, Martin-Christian Stock, Sunil Yeruva, Ursula Seidler

Departments of Gastroenterology, Biochemistry and Hematology, Medical School of Hannover, Physiological Department, University of Münster, Germany.

16:45  S6-O3

**Loss of carbonic anhydrase IX expression impairs gastric mucosal defense against luminal acid**

Taolang Li, Xuemei Liu, Brigitte Riederer, Anurag Kumar Singh, Yongjian Liu, Kari Mäkelä, Gerolf Gros, Helmut Bartels, Karl Heinz Herzig, Ursula Seidler

Depts. of Gastroenterology, Physiology and Anatomy, Hannover Medical School, Germany, and Institute of Biomedine and Biocenter of Oulu, Finland

17:00 – 17:15  **COFFEE BREAK**
17:15 – 18:00 Z. Januškevičiaus hall

PLENARY LECTURE 2
Chair: Markus Hecker

PL-2
Towards a 4-dimensional analysis of vascular growth
René Hägerling1*, Cathrin Pollmann1*, Jan Prodöhl1*, Tobias Brix2, Aaron Scherzinger2, Lisa Honold3, Michael Schäfers3, Klaus Hinrichs3 and Friedemann Kiefer1
1Max Planck Institute for Molecular Biomedicine, Mammalian Cell Signaling Laboratory, Röntgenstrasse 20, D-48149 Münster; 2Visualization and Computer Graphics Research Group, Einsteinstraße 62, D-48149 Münster; 3European Institute for Molecular Imaging, Waldeyerstrasse 15, D-48149 Münster, Germany
* These authors contributed equally to the reported results

20:30 – 23:00  YOUNG PHYSIOLOGIST PARTY
Symposium 7: Monitoring interstitial fluid accumulation: from fundamental physiology and experimental evidence to clinical implications

Organizers: Edgaras Stankevicius and Christer Svensen

Invited Presentations

08:30 S7-1
Clinical implications of inflammatory states in connection with fluid overload
Christer Svensen
Karolinska Institutet, Department of Clinical Science and Education, Section of Anaesthesiology and Intensive Care, Södersjukhuset, SE 118 83 Stockholm, Sweden

08:55 S7-2
The interstitium – anatomy and physiology during normal and inflammatory states
Rolf K. Reed
Department of Biomedicine, University of Bergen, Bergen, Norway

09:20 S7-3
A non-invasive method to detect interstitial overload
Audrius Andrijauskas
Vilnius University Faculty of Medicine, Clinic of Anaesthesiology and Intensive Care

09:45 S7-4
Role of ion channels in lung oedema and pulmonary circulatory collapse
Ulf Simonsen
Department of Biomedicine, Aarhus University, Aarhus, Denmark
ORAL PRESENTATIONS

10:10  S7-O1
The volume-regulated anion channel (VRAC) and its associated SWELL1 are essential for mouse salivary gland development
Ann-Kristin Ruus, Hilde Kanli Galtung
Department of Oral Biology, Faculty of Dentistry, University of Oslo, Norway

10:25  S7-O2
SLC26a3 (DRA)-deficient mice display low surface pH, loss of firmly adherent mucus layer, altered colonic microbiome, and intestinal inflammation
Anurag Kumar Singh, Ines Yang, Brigitte Riederer, Xiao Fang, Sebastian Suerbaum, Ursula Seidler
Dept. of Gastroenterology and Microbiology, Hannover Medical School, Germany

10:40  S7-O3
Association of surfactant protein B haplotypes with respiratory distress syndrome in neonates
Smolarova Silvia, Lasabova Zora, Holubekova Veronika, Lukac Pavol, Skerenova Maria, Matasova Katarina, Zibolen Mirko, Calkovska Andrea
1Department of Physiology, JFM CU; 2Department of Molecular Biology JFM CU and UHM; 3Department of Clinical Biochemistry JFM CU and UHM; 4Department of Neonatology JFM CU and UHM; 5Department of Gynecology and Obstetrics JFM CU and UHM; 6Martin Biomedical Centre, JFM CU, Martin, Slovakia

11:00 – 11:30  COFFEE BREAK

08:30 – 11:00  Lecture hall 203
SYMPOSIUM 8:
Calcium signalling in astrocytes in health and disease
Organizer: Alexey Semyanov

INVITED PRESENTATIONS

08:30  S8-1
Spatial and temporal properties of calcium events in single astrocytes
Alexey Semyanov
University of Nizhny Novgorod, Nizhny Novgorod, Russia
09:00  S8-2  
**Neuroglial interactions and activity-dependence of connexin channels in the olfactory bulb**  
Christian Giaume  
*Center of Interdisciplinary Research in Biology, Collège de France, Paris*

09:30  S8-3  
**Homer1 proteins and the tuning of astrocytic calcium signaling pathways**  
Lara Buscemi¹,⁴, Vanessa Ginet¹, Paola Spagnuolo¹, Carlo Sala², Anita Truttmann³, Lorenz Hirt⁴, Julien Puyal¹ and Paola Bezzi¹  
¹DNF, UNIL, 1005 Lausanne, Switzerland; ²Institute of Neuroscience, Milan, Italy;  
³Neonatology, CHUV, 1011 Lausanne, Switzerland; ⁴DCN, CHUV, 1011 Lausanne, Switzerland

10:00  S8-4  
**Deregulation of astroglial calcium signaling by beta-amyloid: is it relevant to early neuronal dysfunction in Alzheimer’s disease?**  
Dmitry Lim  
*Department of Pharmaceutical Sciences, Università del Piemonte Orientale, Italy*

**ORAL PRESENTATIONS**

10:30  S8-O1  
**Communication of remote tumor cells through the membranous tunneling tubes**  
Ieva Antanavičiūtė, Lina Rimkutė, Renata Sveikatienė, Vytenis Arvydas Skeberdis  
*Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania*

11:00 – 11:30  **COFFEE BREAK**

08:30 – 11:00  **Lecture hall 204**  
**SYMPOSIUM 9:**  
**Re-examination of human reflexes using the discharge rate of single motor units**  
Organizer: Kemal S. Türker
INVITED PRESENTATIONS

08:30  S9-1

**Discharge rate method for error free estimation of the synaptic potentials in human motor neurons**

Kemal S. Türker¹, Oguz Sebik¹, Gizem Yılmaz¹, Utku Yavuz² and Paulius Uginčius³

¹Koç University School of Medicine, Istanbul, Turkey; ²Georg-August University, Göttingen, Germany; ³Lithuanian University of Health Sciences, Kaunas, Lithuania

09:00  S9-2

**Discharge rate and synaptic noise affect reflex response regime of motor unit population**

Utku Ş. Yavuz, Francesco Negro, Oguz Sebik, Cornelius Frömmel, Dario Farina, Kemal S. Türker

Department of Orthobionic, Georg-August University, Göttingen, Germany; Department of Neurorehabilitation Engineering, University Medical Center Göttingen, Georg-August University, Germany; School of Medicine, Koç University, Istanbul

09:30  S9-3

**The new technique for accurate estimation of the spinal cord circuitry: recording reflex responses of large motor unit populations**

Utku Ş. Yavuz¹, Francesco Negro¹, Oğuz Sebik², Aleš Holobar³, Cornelius Frömmel¹, Kemal S. Türker² and Dario Farina¹

¹Department of Neurorehabilitation Engineering, Bernstein Focus Neurotechnology Göttingen, Bernstein Centre for Computational Neuroscience, University Medical Centre Göttingen, Georg-August University, Göttingen, Germany; ²Koç University School of Medicine, Sariyer, Istanbul, Turkey; ³Faculty of Electrical Engineering and Computer Science, University of Maribor, Maribor, Slovenia; ⁴Department of Orthobionic, Georg-August University, Göttingen, Germany

10:00  S9-4

**Re-examination of the periodontal reflexes using frequency analyses**

¹Uginčius P; ²Yılmaz G; ³Sebik Ö; ³Atış ES; ¹Stankevičius E; ²Türker KS

¹Institute of Physiology and Pharmacology, Medical Academy, Lithuanian University of Health Sciences, Kaunas, Lithuania; ²School of Medicine, Koç University, Sariyer, Istanbul, Turkey; ³School of Physical Education and Sports, Marmara University, Istanbul, Turkey
ORAL PRESENTATIONS

10:30  S9-O1  
**Electromyographic characterization of the gastrointestinal activity in rats**  
Kalman F. Szucs, Judit Bota, Judit Hajagos-Toth, Zita Tiszai, Robert Gaspar  
*Department of Pharmacodynamics and Biopharmacy, University of Szeged, Hungary*

10:45  S9-O2  
**Identification of M4 muscarinic receptors role in nocturnal activity**  
Iva Krizova¹, Paulina Valuskova¹, Vladimir Farar², Jaromir Myslivecek¹  
¹Institute of Physiology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic;  
²Institute of Medical Biochemistry and Laboratory Diagnostics, 1st Faculty of Medicine,  
Charles University, 12800 Prague, Czech Republic

11:00 – 11:30  **COFFEE BREAK**

11:30 – 12:15  Z. Januškevičiaus hall  
**PLENARY LECTURE 3**  
Chair: Edgaras Stankevičius

PL-3  
**Control of cAMP signaling and excitation-contraction coupling by phosphodiesterases in normal and diseased heart**  
Marta Lindner, Hind Mehel, Sarah Karam, Delphine Mika, Pierre Bobin, Ibrahim Bedioune, Jérôme Leroy, Grégoire Vandecasteele, Rodolphe Fischmeister  
*Inserm UMR-S 1180, Faculty of Pharmacy, University Paris-Sud, Châtenay-Malabry, France*

12:15 – 12:45  **LUNCH**

12:45 – 14:15  Lecture hall 205  
**WORKSHOP**  
Open Access Publishing: Friend or Foe to Physiologist  
Susan Wray  
*Editor-in-Chief, Physiological Reports; University of Liverpool, UK*

**Topics**  
- What is meant by open access publishing?  
- What are the differences between gold level and others?  
- How can it help your career to publish in open access journals
• Can it damage your career!? Are there sharks in the water?
• Is it all about the money? Who makes the money and who pays?
• How can physiologists afford open access fees?
• What does Physiological Reports have to offer and why is it supported by The Physiological Society, the American Physiological Society, and now by FEPS and the Scandinavian Physiological Society

POSTER SESSION

12:45 – 14:15 POSTER AREA

P1 CARDIOVASCULAR PHYSIOLOGY
Posters P1-19 to P1-36
Chair: Ulf Simonsen and Edgaras Stankevičius

P1-19 Optical cardiac action potential alternans formation in different myocardial layers during early regional ischemia
Rimantas Treinys, Irma Martišienė, Rūta Vosyliūtė, Antanas Navalinskas, Regina Mačianskiene, Jonas Jurevičius
Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania

P1-21 Current chronic heart failure treatment: comparisson of single Lithuania’s university centre with other European centres
Aušra Kavoliūnienė, Goda Maciulevičiūtė, Rasa Sadeckaitė, Kristina Vasiljevaitė
Dept. of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania

P1-22 Trends in neurohormone up-titration for chronic heart failure treatment in single Lithuania’s centre and other European centres
Aušra Kavoliūnienė, Goda Maciulevičiūtė, Rasa Sadeckaitė, Kristina Vasiljevaitė
Department of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania

P1-23 A different marker to determine arrhythmia potential between elite active cyclists and veterans: T peak T end
Z. Işık Solak Gürmüş¹, Bülent Işık¹, Özgür Çiftçi², Abdullah Icli³, Turhan Togan⁴, Hüseyin Aslan⁵, Selim Kutlu¹
¹Departments of Physiology and ³Cardiology, Meram Medical School, University of Necmettin Erbakan, Konya, Turkey; ²Departments of Cardiology and ⁴Infectious Disease, Baskent University, Konya, Turkey; ⁵Department of Sports Academy, Selcuk University, Konya, Turkey
P1-24 **Assessment of spontaneous baroreflex sensitivity in premature newborns**  
Javorka K, Haskova K, Czippelova B, Zibolen M, Javorka M  
1Department of Physiology, 2Martin’s Biomedical Center (BioMed); 3Clinic of Neonatology, Jessenius Faculty of Medicine, Comenius University and University Hospital, Martin, Slovakia

P1-25 **Pro-contractile action of the Na,K-ATPase/Src-kinase signaling pathway in the vascular wall.**  
Elena V. Bouzinova, Lise Hangaard, Christian Skæhr, Zijian Xie, Christian Aalkjær, Vladimir V. Matchkov  
Dept. Biomedicine, Health, Aarhus University, Aarhus, Denmark; 1Marshall IIR, Marshall University, Huntington, WV, USA

P1-26 **Preliminary study: What is the effect of darkness on electrophysiology of the heart in young people?**  
Vojtěch Jarkuliš, Pavol Švorc Jr., Marek Malůš, Eliška Franková, Pavol Švorc  
1Department of Physiology and Pathophysiology, Medical Faculty, University of Ostrava; 2Department of Psychology, Philosophical Faculty, University of Ostrava, Czech Republic; 3Department of Physiology, Medical Faculty, Safarik University, Košice, Slovakia

P1-27 **Anthocyanins as electron acceptors at complex I**  
Kristina Škėmienė, Julius Liobikas and Vilmantė Borutaitė  
Neuroscience Institute, Lithuanian University of Health Sciences, Kaunas, Lithuania

P1-28 **Association between pentraxin-3 and growth differentiation factor-15 in adolescent male swimmers**  
Nuran Karakuyu, Muaz Belviranli, Nilsel Okudan  
Division of Sports Physiology, Department of Physiology, Medical Faculty of Selçuk University, Konya, Turkey

P1-29 **Effects of high fructose diet and exercise on glucose transporter 5 and putative glycerol-transporter aquaporin 7 in the in vivo rat heart**  
Aziz Karaca, Selma Arzu Vardar, Orkide Palabiyik, Ebru Tastekin, Fatma Nesrin Turan  
1Department of Physiology, 2Department of Biophysics, 3Department of Pathology, 4Department of Biostatistics, Trakya University Medical Faculty, Edirne, Turkey.

P1-30 **The pH sensitivity of TRPM7-like current in human atrial cardiomyocytes**  
Mantė Almanaitytė, Irma Martišienė, Rimantas Benetis, Regina Mačianskienė  
Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania
P1-31 Agomelatine has relaxant effect on isolated rat thoracic aorta through nitric oxide dependent mechanism  
Solak H, Ozen Koca R, Nurullahoglu-Atalık KE, Kutlu S,  
Department of Physiology, Meram Faculty of Medicine, Necmettin Erbakan University, Konya, Turkey; Department of Pharmacology, Meram Faculty of Medicine, University of Necmettin Erbakan, Konya, Turkey

P1-32 Effects of nanoparticle-loaded aliskiren on structural alterations in the heart and aorta  
Olga Pechanova1, Martina Cebova1, Andrej Barta1, Jana Klimentova1, Radoslava Rehakova1, Zuzana Matuskova1, Maria Kovacsova1, Vlasta Zavisova2, Martina Koneracka2, Peter Kopcansky2  
1 Institute of Normal and Pathological Physiology, SAS, Bratislava, Slovakia; 2 Institute of Experimental Physics, SAS, Kosice, Slovakia

P1-33 Effect of red wine extract on pro-inflammatory markers – nuclear factor-kappaB and inducible NOS in experimental metabolic syndrome  
Olga Pechanova1, Pavol Janega2, Martina Cebova1, Andrej Barta1, Jana Klimentova1, Radoslava Rehakova1, Zuzana Matuskova1, Stanislava Vrankova1, Maria Kovacsova1, Zuzana Cierna2  
1 Institute of Normal and Pathological Physiology, SAS, Bratislava, Slovakia; 2 Department of Pathology, Faculty of Medicine, Comenius University, Bratislava, Slovakia

P1-34 Effect of acute continuous and intermittent systemic hypoxia on serum cytokine concentrations  
Artūrs Paparde1,2, Līga Plakane1,2  
1Department of Human and Animal Physiology, Faculty of Biology, University of Latvia, Riga, Latvia; 2 Institute of Experimental and Clinical Medicine, Riga, Latvia

P1-35 Lung volumes related to physical activity, aerobic capacity and Body mass index in students  
Anna Mihailova1, Irēna Kaminska1  
1Department of Anatomy and Physiology, Daugavpils University, Latvia

P1-36 (moved from Oral presentation S5-O3)  
Cardioprotective effect of beta-glucan against isoproterenol induced myocardial infarction in rats  
Ebru Çetin, Nazmi Çetin, Mehmet Fatih Sönmez, İlyas Göktaş  
Department of Physiology, Faculty of Veterinary Medicine, Erciyes University, Turkey
P6 NEUROPHYSIOLOGY
Posters P6-1 to P6-17
Chair: Michael Druzin and Mami Noda

P6-1 The interference of tonic muscle activity on the EEG signal: Single motor unit study
Gizem Yilmaz¹, Pekcan Ungan¹, Oğuz Sebik¹, Paulius Uginčius², Kemal S Türker¹
¹Koç University School of Medicine, Sariyer, Istanbul, Turkey; ²Institute of Physiology and Pharmacology, Medical Academy, Lithuanian University of Health Sciences, Kaunas, Lithuania

P6-2 The effect of exercise modalities on D-galactose induced rat Alzheimer model
Dilek Ozbeyli¹, Gulce Sari², Naziye Ozkan³, Betül Karademir², Meral Yuksel⁴, Serap Sirvanci³, Ozgur Kasimay¹
¹Marmara University School of Medicine, Physiology Department, Istanbul, Turkey; ²Marmara University School of Medicine, Biochemistry Department, Istanbul, Turkey; ³Marmara University School of Medicine, Histology and Embriology Department, Istanbul, Turkey; ⁴Marmara University Vocational School of Health Service, Istanbul, Turkey.

P6-3 Olfactory sensitivity in autism spectrum disorder
Francesco Piras, Roberta Fadda, Giuseppe Doneddu, Carla Masala
Center for Pervasive Developmental Disorders, AOB, Cagliari, Italy

P6-4 The influence of 29 weeks of social isolation on basic behavioral and somatic parameters in Wistar Kyoto rats
Jana Murinova, Zuzana Matuskova, Stanislava Vranková, Stefan Bendzala, Olga Pechanova, Igor Riecansky
Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Slovakia

P6-5 Satiety state dependent metabolic sidedness in the hypothalamus of male rats
Istvan Toth¹, David S. Kiss¹, Gergely Jocsak¹, Virag Somogyi¹, Tibor Bartha¹, Laszlo V. Frenyo¹, Attila Zsarnovszky²,³
¹Szent Istvan University, Faculty of Veterinary Science; Hungary; ²Szent Istvan University, Faculty of of Agricultural and Environmental Sciences; Hungary; ³Yale University, School of Medicine, USA
P6-6  **Effects of bisphenol-A on cell viability in developing cerebellar cell culture**

Gergely Jocsak¹, Istvan Toth¹, Virag Somogyi¹, Davis S. Kiss¹, Tibor Bartha¹, Laszlo V. Frenyo¹, Attila Zsarnovszky²³.

¹Szent Istvan University Faculty of Veterinary Science, Hungary.
²Szent Istvan University Faculty of Agricultural and Environmental Sciences, Hungary.
³Yale University, School of Medicine, USA.

P6-7  **The proportion of neuron specific neuronal protein (NeuN) positive neurons in hippocampal CA regions of adult female rats fed with low-calorie diet during adolescence; levels of NOS isoforms in hippocampus**

Zülal Kaptan¹, Kadriye Akgün-Dar², Ayşegül Kapucu², Gülay Üzüm¹

¹Department of Physiology, Istanbul Faculty of Medicine, Istanbul University, Istanbul, Turkey; ²Department of Biology, Faculty of Science, Istanbul University, Istanbul, Turkey.

P6-8  **Effects of calorie restriction in adolescence on brain and serum BDNF levels and serum cholesterol levels in adulthood**

Zülal Kaptan¹, Gülay Üzüm¹

¹Department of Physiology, Istanbul Faculty of Medicine, Istanbul University, Istanbul, Turkey.

P6-9  **Effect of chronic exercise on central monoamines synthesis and cognition in aged rats**


Department of Biology, Laboratory of Neurophysiology, University of the Balearic Islands, Spain.

P6-10  **Effect of early long term enrichment program on central monoamines synthesis and cognition in aged rats**

Susana Esteban, Margarita R. Ramis, Fiorella Sarubbo, Laura Ruiz, Divka Rojic, Sara Aparicio, Antonio Miralles

Department of Biology, Laboratory of Neurophysiology, University of the Balearic Islands, Spain.
P6-11 Effects of resveratrol on SIRT1 expression and NF-kB acetylated levels in aged rats
Antonio Miralles1, Fiorella Sarubbo1, Margarita R Ramis1, Sara Aparicio1, Susana Esteban1, David Moranta1,2
1 Department of Biology, Laboratory of Neurophysiology, University of the Balearic Islands, Spain; 2 Laboratorio de Infección e Inmunidad, FISIB-IdISPa, Hospital Joan March, Mallorca, Spain.

P6-12 SIRT1 and monoamine levels in hippocampus of aged-rats after chronic polyphenol treatments
Fiorella Sarubbo1, David Moranta1,2, Margarita R Ramis1, Carol V Kienzer1, Susana Esteban1, Antonio Miralles1
1Department of Biology, University of the Balearic Islands, Spain; 2Laboratorio de Infección e Inmunidad, FISIB-IdISPa, Hospital Joan March, Spain.

P6-13 BDNF modulates neural network activity via TrkB-mediated launching of intracellular signaling cascades
Tatiana Mishchenko1,2, Maria Vedunova2, Elena Mitroshina1,2, Irina Mukhina1,2
1Molecular and Cell Technology Group, Nizhny Novgorod State Medical Academy; 2Nizhny Novgorod Neuroscience Centre, Lobachevsky State University of Nizhny Novgorod, Russia

P6-14 Effect of gamma-glutamyl cysteiny1 ethyl ester on apoptotic miRNA expressions in kainic acid induced excitotoxicity model
Azak B1, Yalçın A1, Çizmeci G1, Turunç Bayrakdar ES2
1Department of Neuroscience, Ege University Health Sciences Institute, Izmir, Turkey; 2Department of Biochemistry, Ege University Faculty of Pharmacy, Izmir, Turkey

P6-15 Effect of gamma-glutamyl cysteiny1 ethyl ester on mitochondrial DNA damage in kainic acid-induced excitotoxicity model
Çizmeci G1, Yalcın A1,2, Azak B1, Turunc Bayrakdar E2
1Department of Neuroscience, Health Sciences Institute, Ege University, Izmir, Turkey; 2Department of Biochemistry, Faculty of Pharmacy, Ege University, Izmir, Turkey

P6-16 The effect of 3′, 4′-dihydroxyflavonol on lipid peroxidation in brain ischemia-reperfusion damage in rat
Merve Caliskan1, Rasim Mogulkoc1, Abdulkerm Kasim Baltaci1, Esma Menevse2, Neyhan Ergene1
1Selcuk University, Faculty of Medicine, Department of Physiology; 2Selcuk University, Faculty of Medicine, Department of Biochemistry; 3Karatay University, Faculty of Medicine, Department of Physiology, Konya, Turkey
P6-17 **The relationship between neuronal nitric oxide synthase genotype and prepulse inhibition in humans**

Igor Riečanský1,2, Rastislav Rovný1, Veronika Roháriková1, Jana Murínová1, Barbora Cimrová1, Hana Kutlíková1, Štefan Bendžala1, Gabriela Repiská3, Stanislav Katina1,4, Gabriel Minárik3

1Laboratory of Cognitive Neuroscience, Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Bratislava, Slovakia; 2Social, Cognitive and Affective Neuroscience Unit, Department of Basic Psychological Research and Research Methods, Faculty of Psychology, University of Vienna, Austria; 3Institute of Molecular BioMedicine, Faculty of Medicine, Comenius University, Bratislava, Slovakia; 4Applied Mathematics and Statistics, Institute of Mathematics and Statistics, Faculty of Science, Masaryk University, Brno, Czech Republic

P8 **CELLULAR AND MOLECULAR PHYSIOLOGY**

Posters P8-1 to P8-16

Chair: Christine R. Rose and Guy Brown

P8-1 **Calcium signaling evoked by beractant in normal human lung fibroblasts**

Alejandro Guzman-Silva1, Luis G. Vazquez de Lara1, Julian Torres-Jacome1, Elias Pezzat Said1, Criselda Mendoza-Milla2, Franco Tanzi3, Francesco Moccia3, Roberto Berra-Romani1

1 Benemerita Universidad Autonoma de Puebla, Puebla, Mexico; 2 Instituto Nacional de Enfermedades Respiratorias, Mexico City, Mexico; 3 Laboratory of General Physiology, University of Pavia, Pavia, Italy

P8-2 **Ceranib-2 induces apoptosis in prostate cancer cells**

Gokhan Kus1, Selda Kabadere2, H. Mehtap Kutlu3 and Ruhi Uyar2

1 Department of Health Programme, Open Faculty, Anadolu University, 2 Department of Physiology, Faculty of Medicine, Eskisehir Osmangazi University, 3 Department of Biology, Faculty of Science, Anadolu University, Eskisehir, Turkey.

P8-3 **Inflammatory expression profiles after targeted treatments of experimental meconium-induced respiratory failure**

Pavol Mikolka, Jana Kopincova, Petra Kosutova, Andrea Calkovska, Daniela Mokra

Department of Physiology and Biomedical center, Jessenius Faculty of Medicine in Martin, Comenius University in Bratislava, Slovakia
P8-4 **Ceranib-2 inhibits the proliferation and induces apoptosis of glioma cells in vitro**

Selda Kabadere¹, Gokhan Kus², Pinar Oztopcu-Vatan³, Ruhi Uyar¹.

¹Department of Physiology, Faculty of Medicine, Eskisehir Osmangazi University,
²Department of Health, Faculty of Open, Anadolu University,
³Department of Biology, Faculty of Arts and Sciences, Eskisehir Osmangazi University, Eskisehir-Turkey.

P8-5 **Effect of s-nitroso-n-acetyl-penicillamine (SNAP) on the inflammation and oxidative stress in experimental model of acute lung injury**

Petra Kosutova, Hana Pistekova, Pavol Mikolka, Andrea Calkovska, Daniela Mokra

Department of Physiology and Biomedical Centre, Jessenius Faculty of Medicine in Martin Comenius University in Bratislava, Slovakia

P8-6 **Determination of proliferation effect of deguelin on glioma cell lines**

Pinar Oztopcu-Vatan¹, Selda Kabadere², Ruhi Uyar², Melek Gunindı Korkut³

¹Department of Biology, Faculty of Arts and Sciences, Eskisehir Osmangazi University;
²Department of Physiology, Faculty of Medicine, Eskisehir Osmangazi University;
³Graduate School of Natural and Applied Sciences, Eskisehir, Turkey

P8-7 **High efficacy but low potency of delta-opioid receptor-G protein coupling in Brij58-treated low-density membrane domains**

Lenka Roubalová, Miroslava Vošahlíková, Petr Svoboda

Institute of Physiology of the Czech Academy of Sciences, Prague, Czech Republic

P8-8 **The effects of ghrelin on oxidative stress parameters in lipopolysaccharide induced sepsis of rats**

Gulten Ates¹, Elif Ozkok², Haticе Yorulmaz³, Sule Tamer¹

¹Department of Physiology, Istanbul Medical Faculty, Istanbul University Istanbul, Turkey;
²Department of Neuroscience, The Institute for Experimental Medicine, Istanbul University Istanbul, Turkey;
³Department of Physiology, Faculty of Medicine, Halic University Istanbul, Turkey.

P8-9 **Neuroprotective effect of the combined treatment with resveratrol and hypothermia in preventing apoptosis in a neonatal rat model of hypoxic-ischemic encephalopathy**

Toader, A. M.¹, Grigorian, V.², Hoteiuc, O.¹, Tabaran, F.³, Grad, O.⁴, Suciu, S.¹

¹Department of Physiology, Iuliu Hatieganu UMPH, Cluj-Napoca, Romania;
²Department of Surgery, Carol Davila UMPH, Romania;
³Department of Anatomic Pathology, UASVM Cluj-Napoca, Romania;
⁴2nd Surgical Clinic. Iuliu Hatieganu UMPH, Cluj-Napoca, Romania.
P8-10 Hereditary spherocytosis associated with defects of human red blood cell membrane

İşıl Albeniz1, Leyla Türker Şener1, Gürcan Albeniz2, Melih Aktan3, Duran Üstek4

1Department of Biophysics, Istanbul University, Istanbul Faculty of Medicine, Istanbul, Turkey; 2Department of General Surgery, Istanbul University, Cerrahpaşa Faculty of Medicine, Istanbul, Turkey; 3Department of Hematology, Istanbul University, Istanbul Faculty of Medicine, Istanbul, Turkey; 4Department of Medical Genetics & REMER, Medipol University, Istanbul, Turkey

P8-11 Cytotoxic effect of flavonoids combined with imatinib on human chronic myeloid leukemia cell lines

Hüsniye Birman1, Ferdane Danışman1, Eda Çandöken2 Serap Kuruca1, Gülay Melikoğlu3

1Department of Physiology, 2Department of Biochemistry, 3Department of Pharmacognosy, Istanbul University, Istanbul, Turkey

P8-12 The role of different connexins in formation of tunneling tubes and transfer of siRNA between remote HeLa cells

Renata Sveikatienė, Ieva Antanavičiūtė, Lina Rimkutė, Vytenis Arvydas Skeberdis

Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania

P8-13 The role of N-terminal glutamates in modulation of connexin36 gap junction channel conductance by intracellular pH and magnesium ions

Vaidas Jotautis, Lina Rimkutė, Vytenis Arvydas Skeberdis

Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania

P8-14 The effects of CAPE on the oxidant status of the liver and the serum in rat model of acute methanol intoxication

Ümit Can Yazgan1, Bilal Elbey2, Seyyit Kus3, Burhan Baykal4, Idris Keskin5, Alparslan Sahin6, Ahmet Yılmaz7

1Department of Physiology, School of Medicine, Zirve University, Gaziantep, Turkey; 2Department of Immunology, 3Department of Biochemistry, 4Department of Medical Biology, 5Department of Anatomy, 6Department of Ophthalmology, 7Department of Family Medicine, School of Medicine, Dicle University, Diyarbakır, Turkey
P8-15 Curcumin decreases HO-1 and COX-2 expression and sensitizes pancreatic cancer cells to gemcitabine via CUGBP2 mediated post-transcriptional regulation pathway
Aldona Jakštaitė¹, Aurelija Maziukienė¹, Giedrė Šilkuniene¹, Kristina Knieliūtė¹, Albertas Daukša¹², Saulius Paškauskas³, Antanas Gulbinas¹², Žilvinas Dambrauskas¹²
¹Institute for Digestive System Research, Lithuanian University of Health Sciences, Eiveniu str. 4, Kaunas, 50161, Lithuania; ²Department of Surgery, Lithuanian University of Health Sciences, Eiveniu str. 2, Kaunas, 50161, Lithuania

P8-16 The protective effects of roflumilast in rat acute pancreatitis model
Omer Uslukaya¹, Ahmet Turkoglu¹, Ümit Can Yazgan², Ibrahim Kaplan³, Ibrahim Ibiloglu⁴, Murat Kapan¹, Metehan Gumus¹
¹Department of General Surgery, ²Biochemistry, ³Pathology, Dicle University, School of Medicine, Diyarbakir, Turkey; ⁴Department of Physiology, School of Medicine, Zirve University, Gaziantep, Turkey

P9 BIOCHEMISTRY AND METABOLISM
Posters P9-1 to P9-2
Chair: Christine R. Rose and Guy Brown

P9-1 Selected haematological and biochemical parameters in healthy Damascus goats
Ozkan Simsek¹, Nurgul Atmaca¹, Bayram Guner², Ruhi Kabakci¹, Fatih Sultan Bilmen¹
¹Department of Physiology, Faculty of Veterinary Medicine, University of Kirikkale, Turkey; ²Department of Biochemistry, Faculty of Veterinary Medicine, University of Kirikkale, Turkey

P9-2 Is there any relationship between irisin and thyroid hormones?
Suleyman Sandal¹, Suat Tekin¹, Yavuz Erden¹, Fatma Ozyalin²
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey; ²Department of Medical Biochemistry, Faculty of Medicine, Inonu University, Malatya, Turkey
14:15 – 16:45  Lecture hall 202

**SYMPOSIUM 10:**
Sports performance, sports medicine and rehabilitation, public health

Organizer: Jonas Poderys

### INVITED PRESENTATIONS

14:15  S10-1

**Changes in skeletal muscle calcium handling: trigger for beneficial adaptations vs. cause of overtraining**

Håkan Westerblad

*Department of Physiology & Pharmacology, Karolinska Institutet, Stockholm*

14:40  S10-2

**Exercising, obesity and diabetes – is mitochondrial citrate synthase a potential target?**

Aivaras Ratkevičius

*Department of Applied Biology & Rehabilitation, Lithuanian Sports University, Kaunas*

15:05  S10-3

**Exercising until exhaustion: dynamic integration of brain, muscle and cardiorespiratory functions**

Natàlia Balaqué, Pablo Vázquez, Sergi García, Agne Slapšinskaitė, Daniel Aragonés, Robert Hristovski

*INEFC Univ. Barcelona, Spain; Mainz Univ., Germany; Ss Cyril and Methodius University, Macedonia*

15:30  S10-4

**Complex system approach in evaluation of persons physical activity features**

Alfonsas Vainoras

*Lithuanian University of Health Sciences, Kaunas, Lithuania*
ORAL PRESENTATIONS

15:55  S10-O1

Artificial selection for high aerobic capacity is protective against weight gain via high thermogenesis

Sira Karvinen¹, Mika Silvennoinen¹, Timo Törmäkangas², Lauren G. Koch³, Steven L. Britton³,⁴ and Heikki Kainulainen¹

¹Depts. Biology of Physical Activity and ²Health Sciences, Univ. Jyväskylä, Finland; ³Depts. Anesthesiology and ⁴Molecular & Integrative Physiology, University of Michigan Medical School, Ann Arbor, Michigan, USA

16:10  S10-O2

Usability of energy substrate during increasing workload exercise in woman with different body mass index and body fat mass

Aija Strode, Liga Ozoliņa-Moll, Alina Grante, Sintija Kalvane, Karina Volceka

Department of Human and Animal Physiology, Faculty of Biology, University of Latvia, Riga, Latvia

16:25  S10-O3

Storage conditions affect electromechanical, histological and histochemical properties of osteochondral allografts

Arvydas Ūsas¹, Tomas Mickevičius¹,², Alius Pockevičius³, Rimtautas Gudas²,⁴, Justinas Mačiulaitis²,⁴

¹Institute of Physiology and Pharmacology, Lithuanian University of Health Sciences, Kaunas, Lithuania; ²Department of Orthopaedics and Traumatology, Hospital of Lithuanian University of Health Sciences Kaunas Clinics; ³Pathology Center, Department of Infectious Diseases, Veterinary Academy, Lithuanian University of Health Sciences; ⁴Institute of Sports, Lithuanian University of Health Sciences

16:45 – 17:15  COFFEE BREAK

14:15 – 16:45  Lecture hall 203

SYMPOSIUM 11:

A cross talk between calcium and sodium in cell function, signalling and disease

Organizers: Israel Sekler and Christine R. Rose
INVITED PRESENTATIONS

14:15 S11-1

Regulation of CRAC channels by mitochondria through Na\(^+\) and redox signaling

Mohamed Trebak

Department of Cellular and Molecular Physiology, The Pennsylvania State University College of Medicine, Hershey PA 17033, USA

14:45 S11-2

Properties and function of the lysosomal channels TPCs and TRPML1

Archana Jha, Malini Ahuja, and Shmuel Muallem

NIDCR, NIH, Bethesda MD, USA

15:15 S11-3

Sodium signalling in neurons and glial cells of the CNS

Christine R. Rose

Institute of Neurobiology, Heinrich Heine University Duesseldorf, Germany

15:45 S11-4

Crosstalk between TRPV1 and mitochondrial Na\(^+\)/Ca\(^{2+}\) exchanger controls pain signalling

Israel Sekler

Dept. of physiology and cell biology Ben-Gurion University Israel.

ORAL PRESENTATIONS

16:15 S11-O1

Effect of c-Abl gene silencing by siRNA on proliferation of mouse granulosa cells

Aylin Yaba\(^1\), Sami Agus\(^2\), Signem Eyuboglu\(^3\), Necdet Demir\(^3\) and Bayram Yilmaz\(^2\)

\(^1\)Istanbul Medipol University, School of Medicine, Department of Histology and Embryology, Istanbul; \(^2\)Yeditepe University School of Medicine, Department of Physiology, Istanbul;
\(^3\)Akdeniz University School of Medicine, Department of Histology and Embryology, Antalya
Protective effect of alpha lipoic acid, aerobic or resistance exercise from colitis in passive cigarette smoking young rats

Yunus Basar¹, Ayse Cansu Berberoglu¹, Oktay Erkan¹, Anil Ozen¹, Tunahan Sen¹, Dilek Ozboyli², Meral Yuksel³, Dilek Akakin³, Ozgur Kasimay²

¹Marmara University School of Medicine Students, Istanbul, Turkey; ²Marmara University School of Medicine, Physiology Department, Istanbul, Turkey; ³Marmara University School of Medicine, Histology and Embriology Department, Istanbul, Turkey; ⁴Marmara University School of Health Services, Biochemistry Department, Istanbul, Turkey

INVITED PRESENTATIONS

14:15 S12-1  Setting neuronal chloride gradient: a new role for extracellular matrix

Michael Druzin

Section for Physiology, Department of Integrative Medical Biology, Umeå University, Sweden.

14:45 S12-2  Impermeant anions, fixed charges, and the driving force of GABA₆R-mediated Cl⁻ currents

Juha Voipio

Department of Biosciences, University of Helsinki, Finland

15:15 S12-3  Presynaptic action potentials and GABAA receptors

Dimitri M Kullmann

UCL Institute of Neurology, University College London, United Kingdom
Maternal administration of bumetanide rescues altered GABA developmental sequence and the autistic phenotype in rodent offsprings

Nail Burnashev

*Mediterranean Institute of Neurobiology (INMED), U901, INSERM, UMR 901, Aix-Marseille University, Marseille, France.*

**ORAL PRESENTATIONS**

16:15 S12-O1

Effects of treatment of paroxetine, bupropion or agomelatine on puberty onset, gonadotrophin and estradiol levels in female rats

S. Canpolat¹, N. Ulker¹, A. Yardimci¹, G. Ozdemir¹, O. Bulmus¹, M. Ozcan² and H. Kelestimur¹

¹Department of Physiology and ²Department of Biophysics, Firat University Medical School, Elazig, Turkey

16:45 – 17:15 COFFEE BREAK

17:15 – 18:00 Z. Januškevičiaus hall

PLENARY LECTURE 4

Chair: Bayram Yilmaz

PL-4

The role of serine protease inhibitors (serpins) in cell signaling

Margarethe Geiger

*Center of Physiology and Pharmacology, Medical University of Vienna, Vienna, Austria*

19:30 – 23:00 GALA DINNER

Venue: Kaunas Žalgiris Arena, Restaurant 1410
08:30 – 11:00  Lecture hall 202
SYMPOSIUM 13:
Microglia in the healthy brain and influence of their dysfunction
Organizer: Mami Noda

INVITED PRESENTATIONS

S13-1
Control of microglial responses to CNS infection and injury
Uwe-Karsten Hanisch (deceased)
Pul-Flechsig-Institute for Brain Research, University of Leipzig, Germany

08:30  S13-2
Microglia and neuroglia in ALS and spinal muscular atrophy (SMA)
Maria Teresa Carrì
Dept. of Biology, University of Rome Tor Vergata, Rome, Italy

09:00  S13-3
Of ghost cells and ravenous microglia: coupling between apoptosis and microglial phagocytosis in health and disease
Amanda Sierra
Achucarro Basque Center for Neuroscience, Bizkaia, Spain

09:30  S13-4
Sex- and age-dependent effects of thyroid hormone on glial function and morphology
Mami Noda
Laboratory of Pathophysiology, Graduate School of Pharmaceutical Sciences, Kyushu University, Fukuoka, Japan
ORAL PRESENTATIONS

10:00 S13-O1
Hyperthermia: a systems approach in analysis of the effects on different organization levels
Rasa Žukienė, Giedrė Šilkūnienė, Laima Degutytė-Fomins, Zita Naučienė, Vida Mildazienė
Department of Biochemistry, Vytautas Magnus University, Kaunas, Lithuania

11:00 – 11:30 COFFEE BREAK

8:30 – 11:00 Lecture hall 203
SYMPOSIUM 14:
Neurogenesis relevance and interaction in aging and neurodegeneration: new ideas for understanding and treating pathology
Organizers: José Julio Rodríguez Arellano

INVITED PRESENTATIONS

08:30 S14-1
Stress and Neurogenesis: from mother to offspring
M. Koehl, L. Belnoue, S. Malvaut, S. Rajendran, E. Ladevèze, P. Delage, D.N. Abrous
Magneide Neurocenter, Neurogenesis and Pathophysiology, Bordeaux, France; University of Bordeaux, Bordeaux, France

09:00 S14-2
Dentate gyrus neurogenesis in Alzheimer’s disease. Focus on the neuro-vascular unit
Flavia Saravia
Neurobiology of Aging Lab. Institute of Biology and Experimental Medicine, National Research Council CONICET & Biological Chemistry Department, Faculty of Sciences, Buenos Aires University, Argentina
09:30  S14-3

**Neurogenic and gliogenic alterations and recovery in Alzheimer’s disease: a new view for understanding and tackling the disease**

J.J. Rodríguez\(^1,2\)

\(^1\)Achúcarro Center for Neuroscience & IKERBASQUE, Basque Foundation for Science, 48011 Bilbao. \(^2\)Department of Neurosciences, University of the Basque Country UPV/EHU, 48940, Leioa, Spain.

**ORAL PRESENTATIONS**

10:00  S14-O1

**Consumption of polyphenols can influence neurobiological mechanisms of cognitive functions: Possible role of nitric oxide (NO)**

Fedor Jagla, Olga Pechanova

*Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Bratislava*

10:15  S14-O2

**Age-related differences in sensitivity of cortical and cerebellar mitochondria to ischemia induced permeability transition pore opening**

Odeta Arandarcikaitė, Darius Čepauskas, Vilmante Borutaitė

*Lithuanian University of Health Science, Neuroscience Institute, Kaunas, Lithuania*

11:00 – 11:30  **COFFEE BREAK**

08:30 – 11:00  Lecture hall 204

**SYMPOSIUM 15:**

**New insights in pain physiology: bases for therapies**

Organiser: Nana Voitenko

**INVITED PRESENTATIONS**

08:30  S15-1

**Opioid control of pain at the periphery: story of P2X receptors**

Oleg Krishtal

*Bogomoletz Institute of Physiology, Kiev, Ukraine*
09:00  S15-2

Lymphotactin (XCL1) modulation of trigeminal subnucleus caudalis (Vc) excitability in vitro
Anne E. King
School of Biomedical Sciences, University of Leeds, Leeds, UK

09:30  S15-3

T-type calcium channels functioning in diabetic neuropathy
Pavel Belan
Bogomoletz Institute of Physiology, Kiev, Ukraine

10:00  S15-4

AMPA receptor trafficking in persistent pain
Nana Voitenko
Laboratory of Sensory Signaling, Bogomoletz Institute of Physiology, Kiev, Ukraine

ORAL PRESENTATIONS

10:30  S15-O1

Investigation of possible interaction between the noradrenergic system and enkephalinergic system in experimental acute pain model in pain modulation
Ahmet AYAR, Oznur GEDIKLI
Department of Physiology, Faculty of Medicine, Karadeniz Technical University, Trabzon, Turkey

11:00 – 11:30  COFFEE BREAK

11:30 – 12:15  Z. Januškevičiaus hall

PLENARY LECTURE 5
Chair: David Eisner

PL-5
Physiological studies of muscle in zebrafish larvae – exploring mechanisms in human muscle disease
A. Arner
Dept Physiology and Pharmacology, Karolinska Institutet, Stockholm, Sweden

12:15 – 12:45  LUNCH
P3-14 The evaluation of sexual function of men with type 1 diabetes mellitus

Edita Prakapienė¹, leva Garbauskaitė², Karolina Bauraitė³, Raminta Miežytė³, Lina Radzevičienė¹,², Birutė Zilaitienė¹,²

¹Lithuanian University of Health Sciences (LUHS), Department of Endocrinology, Kaunas, Lithuania; ²LUHS, Institute of Endocrinology, Kaunas, Lithuania; ³LUHS, Faculty of Medicine, Kaunas, Lithuania

P3-15 Hypoglycemia features of type 1 diabetes patients with nephropathy

Edita Prakapienė¹, Karolina Bauraitė³, Raminta Miežytė³, Lina Radzevičienė¹,²

¹Lithuanian University of Health Sciences (LUHS), Department of Endocrinology, Kaunas, Lithuania; ²LUHS, Institute of Endocrinology, Kaunas, Lithuania; ³LUHS, Faculty of Medicine, Kaunas, Lithuania

P3-16 The relationship between mitogen activated protein kinase and apoptotic proteins in pancreatic beta cell with type-I diabetes

Sahin YESILDAG¹, Eylem TASKIN², Celal GUVEN³

¹Department of Nutrition and Dietetics, School of Health Sciences, Istanbul Bilim University, Istanbul, Turkey; ²Department of Physiotherapy and Rehabilitation, School of Health Sciences, Istanbul Bilim University, Istanbul, Turkey; ³Department of Biophysics, Faculty of Medicine, University of Adiyaman, Adiyaman, Turkey

P3-17 What is normal sexuality of 26–36 year-old Lithuanian men?

Indrė Matulevičiūtė¹, Iona Baniauskaitė¹, Valentinas Matulevičius¹, Rasa Verkauskinė¹, Vaidotas Urbanavičius², Tomas Kurakovas¹, Rytas Ostrauskas¹.

¹Institute of Endocrinology, Lithuanian University of Health Sciences, Kaunas, Lithuania; ²Vilnius University, Vilnius, Lithuania

P3-18 Effects of exercise time of the day on oxidant and antioxidant capacity in sedentary and trained subjects.

Sermin Algul¹, Bayram Yılmaz² and Oguz Ozcelik¹

¹Department of Physiology, Firat University, Elazig, Turkey; ²Department of Physiology, Yeditepe University, Istanbul, Turkey
P3-19 **The relationship between irisin and testicular functions: A morphological approach**
Suleyman Sandal, Nigar Vardi, Suat Tekin, Yavuz Erden, Ali Beytur
Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey; Department of Histology and Embryology, Faculty of Medicine, Inonu University, Malatya, Turkey

P3-20 **The alterations in serum ghrelin and leptin levels after intracerebroventricularly irisin infusion in rats**
Suat Tekin¹, Yavuz Erden¹, Suleyman Sandal¹, Fatma Ozyalin¹, Cemil Colak²
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey; ²Department of Medical Biochemistry, Faculty of Medicine, Inonu University, Malatya, Turkey

P3-21 **Investigation of effects of kisspeptin-10 in methionine induced lipid peroxidation in testis tissue of young male rats**
Hatice Akkaya¹, Signem Eyuboglu², Gozde Erkanli Senturk³, Engin Sumer¹, Bayram Yilmaz²
Yeditepe University, Medical School, Experimental Research Center¹ and Department of Physiology², Istanbul; ³Bahcesehir University, Medical School, Department of Histology and Embriology, Istanbul

P3-22 **Investigation of epigenetic changes in exfoliated mammary epithelial cells retrieved from lactating women**
Ozge Atasayan¹, Sami Agus¹, Oznur Suakar², Signem Eyuboglu¹, Omer Faruk Bayrak², Suleyman Sandal³ and Bayram Yilmaz²
Yeditepe University, Medical School, Departments of Physiology¹, and Medical Genetics², Istanbul; ³Inonu University, Medical School, Department of Physiology, Malatya, Turkey

P3-23 **Epidemiological study of bone density in male and female medical students in Ostrava**
Pavol Svorc Jr¹, Vojtech Jarkulis¹, Zdenek Vavrina¹, Pavol Svorc²
¹Department of Physiology and Pathophysiology, Medical Faculty, Ostrava University, Ostrava, Czech Republic; ²Department of Physiology and Pathophysiology, Medical Faculty, Safarik University, Kosice, Slovak Republic
**P7**  
**RENAL PHYSIOLOGY**  
Posters P7-1 to P7-7  
Chair: Bayram Yilmaz and Arvydas Ūsas

**P7-1**  
**Effects of silymarin on methotrexate-induced nephrotoxicity in rats**  
Durrin Ozlem Dabak¹, Nevin Kocaman¹  
¹Department of Histology and Embryology, Firat University, School of Medicine, Elazig, Turkey

**P7-2**  
**Expression of ghrelin and GHS-R1a in long term diabetic rat’s kidney**  
Aysegul Burcin YILDIRIM, Derya KARABULUT, Munis Dundar, Hasan Basri Ulusoy, Mehmet Fatih SÖNMEZ  
Erciyes University, Faculty of Medicine, Department of Histology and Embryology and Department of Medical Genetics, Turkey

**P7-3**  
**The effects of erdosteine on experimental myoglobinuric acute kidney injury in rats**  
Cigdem Atagun Bana¹, Nurettin Aydogdu¹, Ebru Tastekin², Meryem Demircan Poyraz¹, Ozlem Yalcinkaya Yavuz¹,  
¹Trakya University Faculty of Medicine Dept. of Physiology, ²Trakya University Faculty of Medicine Dept. of Pathology, Edirne, Turkey

**P7-4**  
**Erythrocyte rheological properties in peritoneal dialysis patients with chronic renal disease**  
¹Nesrin Zeynep Ertan, ²Ozlem Yalcin, Semra ³Bozfakioglu, ¹Mukaddes Sinan, ⁴Hulya Gul  
¹Department of Physiology, Istanbul University, Istanbul, Turkey; ²Department of Physiology, Koc University, Istanbul, Turkey; ³Department of Nephrology, Istanbul University, Istanbul, Turkey; ⁴Department of Public Health, Istanbul University, Istanbul, Turkey

**P7-5**  
**The protective effect of melatonin on carbon tetrachloride (CCl4) – induced nephrotoxicity in rats**  
Safa Mohamed Elmustafa Osman ELMUBARAK and Nesrin ÖZSOY  
Ankara University, Faculty of Science, Department of Biology, Tandogan, Ankara, Turkey

**P7-6**  
**Cyclosporine and MMF use in combination in patients after renal transplantation**  
A. Noreikaitė¹, F. Saint-Marcoux²,³, E. Kaduševičius¹, E. Stankevičius¹  
¹Lithuanian University of Health Sciences, Kaunas, Lithuania; ²University of Limoges, Limoges, France; ³CHU Limoges, France
P7-7 (moved from Oral presentation S5-O1)
Short-term hypoxia and vasa recta function in kidney slices
Diana Braun, Marion Ludwig
Institute of Vegetative Physiology, Charité-Universitätsmedizin Berlin, Germany

P6 NEUROPHYSIOLOGY
Posters P6-18 to P6-34
Chair: Jose Julio Arellano and Gytis Svirskis

P6-18 The protective effect of selenite ions on catalase activity in the brain of aluminium-treated mice
Ilona Sadauskienė1,2, Inga Stančiūtė1,2, Arūnas Liekis1, Laima Ivanovičienė2, Leonid Ivanov2
1Neuroscience Institute and 2Department of Biochemistry, Medical Academy, Lithuanian University of Health Sciences, Eivenių 4, LT-50009, Kaunas, Lithuania

P6-19 Changes in nitric oxide generation in rats reared in social isolation
Zuzana Matuskova1, Stanislava Vrankova1, Martina Cebova1, Jana Klimentova1, Radoslava Rehakova1, Andrej Barta1, Jana Murinova1, Igor Riecansky1,3, Olga Pechanova1,2
1Institute of Normal and Pathological Physiology and Centre of Excellence for Examination of Regulatory Role of Nitric Oxide in Civilization Diseases, Slovak Academy of Sciences, Bratislava, Slovakia; 2Comenius University, Bratislava, Slovakia; 3Social, Cognitive and Affective Neuroscience Unit, Department of Basic Psychological Research and Research Methods, Faculty of Psychology, University of Vienna, Austria

P6-20 Hypoxia-induced toxicity mechanism in brain is age-dependent
Aiste Jekabsone, Vilmantė Borutaitė
Neuroscience Institute, Lithuanian University of Health Sciences, Kaunas, Lithuania

P6-21 Degradation of brain hyaluronic acid triggers homeostatic plasticity-like changes in the AMPA receptor pool of hippocampal neurons
Alena Balashova1, Ekaterina Kondratyeva2, Anastasya Zhabereva2, Murat Gainullin2, Irina Mukhina1,2
1Lobachevsky State University of Nizhni Novgorod, Nizhni Novgorod, Russia; 2Nizhny Novgorod State Medical Academy, Nizhni Novgorod, Russia
P6-22 **Investigation of cognitive functions with Wechsler Adult Intelligence Scale’s comprehension subtest and Mini-Mental State Examination in patients with end-stage renal diseases**

Mehmet Karaoğlan¹², M.Hanifi Emre², Yasemin Demirtas³, Idris Sahin⁴, Hulya Taskapan⁴

¹Mardin Artuklu University School of Health, Department of Nursing, Mardin, Turkey; ²Inonu University, Faculty of Medicine, Department of Physiology, Malatya, Turkey; ³Inonu University, Faculty of Medicine, Department of Neurology, Malatya, Turkey; ⁴Inonu University, Faculty of Medicine, Department of Internal Medicine, Nephrology Division, Malatya, Turkey

P6-23 **Search for criteria that allow shortening of pupillography sleepiness test time**

Maija Rumaka, Leons Blumfelds, Rudite Lagzdina

Department of human physiology and biochemistry, Riga Stradiņš University, Latvia

P6-24 **Dysregulated gene expression network of oligodendrocyte lineage markers in the cerebellum of autistic patients**

Fares Zeidán-Chuliá¹², Ben-Hur Neves de Oliveira¹, Manuel F. Casanova³, Emily L. Casanova³, Mami Noda⁴, Alla B. Salmina⁵, Alexei Verkhratsky⁶

¹Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil; ²University of Turku, Turku, Finland; ³University of Louisville, Louisville, USA; ⁴Kyushu University, Fukuoka, Japan; ⁵Krasnoyarsk State Medical University, Krasnoyarsk, Russia; ⁶Faculty of Life Sciences, University of Manchester, Manchester, UK

P6-25 **Neurotoxic effects of biological fluids of Alzheimer’s disease patients’ on cerebellar granule cell cultures**

Silvija Jankevičiūtė¹, Ramunė Morkūnienė¹, Greta Pšemeneckienė², Evelina Grušauskiene², Kęstutis Petrikonis², Vilmantė Borutaite¹

¹Institute of Neurosciences, Lithuanian University of Health Sciences, Kaunas, Lithuania; ²Kaunas Clinics, Neurology Department, Kaunas, Lithuania.

P6-26 **Effect of alcohol on the rat visual cortex visually evoked potentials**

Redas Dulinskas, Rokas Buisas, Valentina Vengelienë, Osvaldas Rukšėnas

Vilnius University, Faculty of Natural Sciences, Department of Neurobiology and Biophysics, Vilnius, Lithuania.

P6-27 **Sema3A and NGF interplay in regeneration of DRG axons**

Andrius Kaselis¹³, Rimantas Treinys¹², Rūta Vosyliūtė¹², Saulius Šatkauskas¹

¹Biophysical Research Group, Biology Department, Vytautas Magnus University, Kaunas, Lithuania; ²Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania; ³Neuroscience Institute, Lithuanian University of Health Sciences, Kaunas, Lithuania.
P6-28 Effect of selenite ions against aluminium-induced oxidative stress in mice tissues
Inga Stanevičienė¹,², Dalė Vieželienė¹,², Leonid Ivanov²
¹Neuroscience Institute and ²Department of Biochemistry, Medical Academy, Lithuanian University of Health Sciences, Kaunas, Lithuania

P6-29 Kisspeptin elicits cytosolic calcium responses through protein kinase C-dependent mechanism in immortalized RFamide-related peptide-3 neurons
Mete OZCAN¹, Gokcen OZDEMIR², Emine KACAR², Sinan CANPOLAT², Haluk KELESTIMUR²
¹Department of Biophysics, ²Department of Physiology Faculty of Medicine, Firat University, Elazig, Turkey

P6-30 Inhibition of mitochondrial respiratory chain complex I is protective against ischemia induced rat cortex and cerebellum mitochondrial damage
Evelina Rekuvienė¹, Rimvydas Jonikas², Laima Ivanovienė¹, Vilmantė Borutaitė¹,², Ramunė Morkūnienė¹,²
¹Department of Biochemistry, Lithuanian University of Health Science, Kaunas, Lietuva; ²Institute of Neurosciences, Lithuanian University of Health Science, Kaunas, Lietuva

P6-31 Effect of kisspeptin on calcium signalling in cultured rHypoE-8 cell line
Selim Kutlu¹, Gokcen Ozdemir², Zafer Sahin¹, Mete Ozcan², Sinan Canpolat², Haluk Kelestimur²
¹Necmettin Erbakan University, Meram Faculty of Medicine, Department of Physiology, Konya, Turkey; ²Firat University, Faculty of Medicine, Department of Physiology, Elazig, Turkey

P6-32 Elaboration of the method to determine brain tumor boundaries
Vedunova M.¹,², Tyurikova O.¹, Dembitskaya Y.¹, Yashin K.³, Mishchenko T.¹,², Mishchenko M.¹, Kazantsev V.¹
¹Lobachevsky State University of Nizhni Novgorod; ²Nizhni Novgorod State Medical Academy, ³Privolzhsky Federal Research Medical Centre, Nizhni Novgorod, Russia

P6-33 Improved abnormal brain electrical activity via HMG-CoA reductase inhibitor rosuvastatin and the role of PI3K/Akt pathway
F. Burcu Şeker¹, Bilge Güvenç Tuna², Ertugrul Kilíç³, Bayram Yılmaz¹
¹Yeditepe University, Medical School Physiology Department, Istanbul, Turkey; ²Yeditepe University, Medical School Biophysics Department, Istanbul, Turkey; ³Medipol University, Medical School Physiology Department
P6-34 Midkine, TNF-α and cytochrome C expressions in kainic acid-induced epileptic seizures in rats
Mehtap Kaçar¹, F.Burcu Şeker¹, Bilge Güvenç Tuna³, Nuray Yazihan², M. Sinem Ethemoğlu¹, Siğnem Eyuboğlu¹, Bayram Yılmaz¹
¹Yeditepe University, Medical School Physiology Department; ²Ankara University, Medical School Physiopathology Department; ³Yeditepe University, Medical School Biophysics Department, Turkey

P8 CELLULAR AND MOLECULAR PHYSIOLOGY
Posters P8-17 to P8-28
Chair: V. A. Skeberdis and Vladimir Matchkov

P8-17 Effects of ellagic acid on experimental acute pancreatitis in rats
Zübeyir Bozdag¹, Edip Erdal Yılmaz², Ümit Can Yazgan³, Ibrahim Kaplan⁴, Zülfü Arıkanoğlu¹, İbrahim İbiloglu⁵, Sabri Selçuk Atamanalp⁶
¹Department of General Surgery, ²Biochemistry, ³Pathology, Dicle University, Diyarbakir, Turkey; ⁴Department of General Surgery, Education and Training Hospital, Diyarbakir, Turkey; ⁵Department of Physiology, Zirve University, Gaziantep, Turkey; ⁶Department of General Surgery, Atatürk University, Erzurum, Turkey

P8-18 Effects of seranib-2 on cell survival and tnf-alpha in colon cancer cell line
Mustafa Baspınar¹, Rumeysa Özuyurt², Gökhan Kus³, Ozden Kutlay², Mete Ozkurt², Nilüfer Erkasap², Serdar Erkasap¹, Selda Kabadere²
¹Surgery Department, ²Physiology Department, Eskişehir Osmangazi University Medical Faculty, Eskişehir, Turkey; ³Anadolu University Open Faculty / Department of Health Program, Eskişehir, Turkey

P8-19 Caffeic acid phenethyl ester prevents fluoxetine-induced hepatotoxicity in rats
Ahmet Yılmaz¹ Bilal Elbey², Ümit Can Yazgan³, Ahmet Turkoglu⁴
¹Department of Family Medicine, ²Department of Immunology, ³Department of General Surgery, School of Medicine, Dicle University, Diyarbakir, Turkey; ⁴Department of Physiology, School of Medicine, Zirve University, Gaziantep, Turkey

P8-20 Reduced expression of citrate synthase is associated with increased anaerobic glycolysis in C2C12 muscle cells
Authors Mustafa Al-Tarrah, Brendan Gabriel, Aivaras Ratkevičius
Affiliations School of Medical Sciences, University of Aberdeen, Aberdeen, Scotland, U.K.
P8-21 Changes of mitochondrial function and energy transfer enzymes in muscles of mice with deleted wolframin (wfs1) gene
Marquis Eimre, Kalju Paju, Ehte Orlova, Nadežda Peet, Marilin Ivask, Sulev Kõks
Department of Pathophysiology, University of Tartu, Tartu, Estonia

P8-22 Lipopolysaccharide-induced inactivation of pulmonary surfactant and its reversal
Maros Kolomaznik, Ivan Zila, Petra Kosutova, Daniela Mokra, Andrea Calkovska
Department of Physiology and Biomedical Centre, Jessenius Faculty of Medicine, Comenius University in Bratislava, Martin, Slovakia

P8-23 Effect of ischemia-reperfusion in vivo on rat kidney mitochondrial functions
Airida Kasperavičiūtė1, Lukas Mickevičius2, Darius Trumbeckas2, Sonata Trumbeckaitė1, Rasa Banienė1
1Neuroscience Institute, Lithuanian University of Health Sciences, Eiveniu str. 4, LT-50009,
2Department of Urology, Medical Academy, Lithuanian University of Health Sciences, Eivenių g. 2, LT-50009 Kaunas, Lithuania

P8-24 The characterization of diffusion obstacles in rat cardiomyocytes
Natalja Jepihhina, Päivo Simson, Martin Laasmaa, Rikke Birkedal, Marko Vendelin
Laboratory of Systems Biology, Institute of Cybernetics at TUT, Tallinn, Estonia

P8-25 Surfactant proteins B and C are more than lipid membranes stabilizers
Andrea Calkovska1, Ivan Zila1, Barbora Uhliarova2, Martin Maros Kolomaznik1, Jana Kopincova1, Daniela Mokra1
1Department of Physiology and Biomedical Centre, Jessenius Faculty of Medicine, Comenius University in Bratislava, Martin, Slovakia; 2Department of Otorhinolaryngology, FD Roosevelt Faculty Hospital, Banska Bystrica, Slovakia

P8-26 Experimental investigation of immunostimulating effect of Propolis ethanolic extract
Agnė Gimžauskaite1, Genovaitė Šimonienė-Kazlauskienė2, Vilma Jurkštienė2, Monika Lauktytė3, Žibuoklė Senikienė2
1Lithuanian University of Health Sciences, Heart and Vascular Surgery Clinic, Kaunas, Lithuania; 2Lithuanian University of Health Sciences, Institute of Physiology and Pharmacology, Kaunas, Lithuania, 3Vilnius University, Cardiology Clinic, Vilnius, Lithuania
P8-27 Histochemical observations on protective effects of melatonin against carbon tetrachloride (CCl4) – induced hepatotoxicity
Dilşad ÖZERKAN¹, Nesrin ÖZSOY², K. Gonca AKBULUT³, Şevin GÜNEY³, Güler ÖZTÜRK⁴
¹Kastamonu University, Faculty of Arts and Sciences, Department of Biology, Kastamonu, Turkey; ²Ankara University, Faculty of Science, Department of Biology, Tandogan, Ankara, Turkey; ³Gazi University, Faculty of Medicine, Department of Physiology, Beşevler, Ankara, Turkey; ⁴Maltepe University, Faculty of Medicine, Department of Physiology, Maltepe, Istanbul, Turkey

P8-28 Thermoregulation in the raccoon dog (Nyctereutes procyonoides)
Laura M. Niiranen¹, Kari A. Mäkelä¹, Anna Sorjamaa¹, Shivaprakash J. Mutt¹, Anne Roivainen², Pirjo Nuutila³, Anu Autio³, Seppo Saarela², Karl-Heinz Herzig¹
¹Institute of Biomedicine & Biocenter of Oulu, ²Department of Biology, University of Oulu, Oulu, Finland, ³Turku PET Centre, Turku, Finland.

P10 CELL PHYSIOLOGY AND REGENERATION
Posters P10-1 to P10-6
Chair: V. A. Skeberdis and Vladimir Matchkov

P10-1 New synthesized benzofuran substituted chalcones on human prostate cancer cell lines: an in vitro study
Suat Tekin¹, Demet Coskun², Suleyman Sandal¹
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey; ²Department of Chemistry, Faculty of Science, Firat University, Elazig, Turkey

P10-2 Benzimidazole based a new therapeutic agent effective on ovarian cancer cells
Suat Tekin¹, Akin Mumcu², Hasan Kucukbay³, Suleyman Sandal¹
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey; ²Scientific and Technological Research Center, Inonu University, Malatya, Turkey; ³Department of Chemistry, Faculty Arts and Sciences, Inonu University, Malatya, Turkey

P10-3 Anti-tumor properties of microwave-assisted synthesized 6,7-dihydroxycoumarins: An in vitro study
Suat Tekin¹, Kenan Koran², Furkan Ozen², Ahmet Orhan Gorgulu³, Suleyman Sandal¹
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey; ²Department of Chemistry, Faculty of Science, Firat University, Elazig, Turkey
P10-4 Concentration effects of some new benzimidazole derivatives on Human Breast Cancer Cell Viability  
Suat Tekin¹, Akin Mumcu², Hasan Kucukbay³, Suleyman Sandal¹  
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey;  
²Scientific and Technological Research Center, Inonu University, Malatya, Turkey;  
³Department of Chemistry, Faculty of Arts and Sciences, Inonu University, Malatya, Turkey

P10-5 Determination of antitumor properties of cyclophosphazene derivatives bearing chalcone-groups against PC-3 cell lines  
Suat Tekin¹, Kenan Koran², Furkan Ozen², Ahmet Orhan Gorgulu², Suleyman Sandal¹  
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey;  
²Department of Chemistry, Faculty of Science, Firat University, Elazig, Turkey

P10-6 Synthesis and evaluation of benzofuran substituted chalcones on human breast cancer cell lines: An in vitro study  
Suat Tekin¹, Demet Coskun², Suleyman Sandal¹  
¹Department of Physiology, Faculty of Medicine, Inonu University, Malatya, Turkey;  
²Department of Chemistry, Faculty of Science, Firat University, Elazig, Turkey

P10-7 Application of polyimide films for cell scaffold in tissue engineering  
Valeryia Mikalayeva¹, Ieva Antanavičiūtė¹, Tomas Tamulevičius², Edgaras Stankevičius³  
¹Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania;  
²Institute of Materials Science, Kaunas University of Technology, Kaunas, Lithuania;  
³Institute of Physiology and Pharmacology, Lithuanian University of Health Sciences, Kaunas, Lithuania

P10-8 Fabrication of scaffolds for stem cells via ultrafast laser micro machining of polymer films and electrospun webs  
Valeryia Mikalayeva¹, Tomas Tamulevičius², Linas Šimatonis², Erika Adomavičiūtė³,  
Ieva Antanavičiūtė¹, Vytenis Arvydas Skeberdis¹, Edgaras Stankevičius⁴,  
Sigita Tamulevičiūtė²  
¹Institute of Cardiology of Lithuanian University of Health Sciences, Kaunas, Lithuania;  
²Institute of Materials Science of Kaunas University of Technology, Kaunas, Lithuania;  
³Department of Materials Engineering, Faculty of Mechanical Engineering and Design,  
Kaunas University of Technology, Kaunas, Lithuania; ⁴Institute of Physiology and Pharmacology of Lithuanian University of Health Sciences, Kaunas, Lithuania
13:00 – 16:00 **SATELLITE SYMPOSIUM OF CLINICAL AND EXPERIMENTAL PHARMACOLOGY**  
Venue: New Pharmaceutical and Health Technology Centre  
**Education in clinical pharmacology and its implementation in practice**  
Organizers: prof. Romaldas Mačiulaitis, prof. E. Stankevičius

**Welcome**  
Edgaras Stankevičius  
*Institute of Physiology and Pharmacology, Lithuanian University of Health Sciences*

**Development of clinical pharmacology in Lithuania as medical specialty**  
Romaldas Mačiulaitis  
*Clinical pharmacology residency program Lithuanian University of Health Sciences*

**Medicines regulation in Lithuania: value of clinical pharmacologist (t.b.c.)**  
Gintautas Barcys  
*State Medicines Control Agency*

**Pharmacoeconomics in Lithuania: role of Clinical Pharmacologist**  
Kristina Garuolienė  
*National Health Insurance Fund*

Rochelle L Chaiken  
*Vice President, Medical Affairs, Europe Regional Lead, Global Established Pharma; Pfizer Inc.*

**How can educational program in Clinical Pharmacology (residency level) be polished locally for better representation of local clinical care and public service’s needs: UK experience**  
Ross Breckenridge  
*Chair of the Specialist Advisory Committee for Clinical Pharmacology, Training Programme Director for Clinical Pharmacology and Therapeutics, UK*
Implementing the National Swedish curriculum in Clinical Pharmacology: the Stockholm experience
Staffan Rosenborg
Head of the Clinical Pharmacology Trial Unit, Karolinska University Hospital – Huddinge

DISCUSSION

13:45 – 16:15 Lecture hall 202

SYMPOSIUM 16:
Astroglia in neuropsychiatric diseases
Organizer: Alexei Verkhratsky

INVITED PRESENTATIONS

13:45 S16-1
Neurological and psychiatric disorders as gliopathies
Alexei Verkhratsky
The University of Manchester, Oxford Road, Manchester M13 9PT, UK

14:15 S16-2
Astrocytes as targets for drugs used in psychiatric diseases
Liang Peng
Laboratory of Metabolic Brain Diseases, Institute of Metabolic Disease Research and Drug Development, China Medical University, Shenyang, P. R. China

14:45 S16-3
Putative role of astrocytes in major neuropsychiatric diseases
Luca Steardo junior¹, Caterina Scuderi², Luca Steardo²
¹Dept. Psychiatry SUN University of Naples; ²Dept. Physiology and Pharmacology “V. Erspamer” SAPIENZA University of Rome, Italy

15:15 S16-4
Astroglial mechanisms of hyperammonemia -induced brain injury
Jan Albrecht
Department of Neurotoxicology, Mossakowski Medical Research Centre, Polish Academy of Sciences, Warszawa, Poland
ORAL PRESENTATIONS

15:45 S16-O1  
Assessment of trace elements in children with autism spectrum disorders  
Rima Naginienė, Rima Kregždytė, Dale Baranauskienė, Vaida Baksenskaitė  
Neuroscience Institute, Lithuanian University of Health Sciences, Kaunas, Lithuania

16:15 – 16:30 COFFEE BREAK

13:45 – 16:15 Lecture hall 203

SYMPOSIUM 17:  
Calcium signalling micro-domains  
Organiser: Ole Petersen

INVITED PRESENTATIONS

13:45 S17-1  
Calcium signalling in the endoplasmic reticulum/secretory granule micro-domain  
Ole H Petersen  
MRC Group, School of Biosciences, Cardiff University, Wales, UK

14:15 S17-2  
Presenilin 2 modulates ER-mitochondria coupling by tuning the inhibitory effect of mitofusin 2 on organelle tethering  
Riccardo Filadi, Elisa Greotti, Paola Pizzo, Tullio Pozzan  
Dept. Biomedical Sciences, University of Padua and Italian National Research Council (CNR), Italy

14:45 S17-3  
Distinct spatial Ca^{2+} signatures selectively activate different NFAT transcription factor isoforms  
Pulak Kar and Anant B. Parekh  
Department of Physiology, Anatomy and Genetics, University of Oxford, Parks Road. Oxford. OX1 3PT. U.K.
15:15  S17-4

**Calcium imaging in organelles with GAP (GFP-aequorin protein) probes**

Javier García-Sancho

*Instituto de Biología y Genética Molecular (IBGM), Universidad de Valladolid y CSIC, Valladolid, Spain*

16:15 – 16:30  **COFFEE BREAK**

13:45 – 16:15  **Lecture hall 204**

**SYMPOSIUM 18:**

**Cardiovascular control by surrounding tissue**

Organiser: Vladimir Matchkov

**INVITED PRESENTATIONS**

13:45  S18-1

**Brain energy supply and metabolism in aging**

Martin Lauritzen

*Department of Clinical Neurophysiology, Rigshospitalet & Department of Neuroscience and Pharmacology, University of Copenhagen, Denmark.*

14:15  S18-3

**Metabolic regulation of vascular tone: novel signaling mechanisms in the heart and brain**

Ebbe Boedtkjer

*Department of Biomedicine, Aarhus University, Aarhus, Denmark*

14:45  S18-4

**PVAT-dependent relaxation: Quid Novi**

Jean-Yves Tano

*Max Delbrück Center for Molecular Medicine, Berlin, Germany*
ORAL PRESENTATIONS

15:15 S18-O1

BK channels limit nitric oxide-induced reduction of vessel contractility

Rudolf Schubert, Johannes Schmid, Bettina Müller, David Heppeler, Dina Gaynullina, Mitko Mladenov

Research Division Cardiovascular Physiology, Centre for Biomedicine and Medical Technology Mannheim, Medical Faculty Mannheim, Heidelberg University, Germany

15:30 S18-O2

Connexin 43 expression and gap junction permeability is differently regulated by heat stress-activated c-Jun N-terminal kinase in HeLa cells and skeletal myoblasts

Ieva Antanavičiūtė¹, Edgaras Stankevičius², V. Arvydas Skeberdis¹,²

¹Institute of Cardiology, Lithuanian University of Health Sciences, Kaunas, Lithuania;
²Institute of Physiology and Pharmacology, Lithuanian University of Health Sciences, Kaunas, Lithuania

16:15 – 16:30 COFFEE BREAK

16:30 – 16:45 Lecture hall 203

CLOSING SESSION