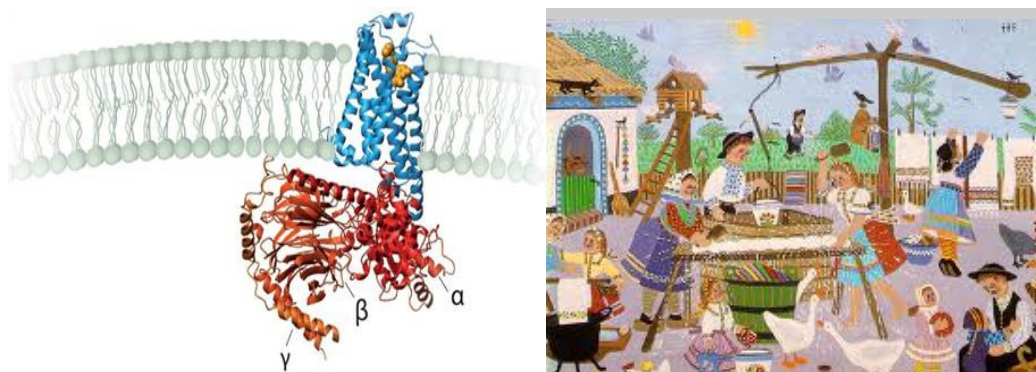


JOINT MEETING OF NATIONAL PHYSIOLOGICAL SOCIETIES

**"NEW FRONTIERS IN PHYSIOLOGICAL RESEARCH –
FROM SCIENTIFIC TRUTH VIA FRIENDSHIP TO THE ART"**

Organized by
SLOVAK PHYSIOLOGICAL SOCIETY
SERBIAN PHYSIOLOGICAL SOCIETY



Accredited by the Health Council of Serbia (the evidence No. A-1-1348/13)

(15 CME credits for lecturers, 13 CME credits for oral presentations, 11 CME credits for poster presentations, 9 CME credits for participants)

FINAL PROGRAM

JUNE 20-22, 2013, KOVACICA, VOJVODINA, SERBIA

<http://www.physiology.org.rs/eng/htm/konf2013/program.pdf>

FOREWORD

Dear Colleagues,

We are very pleased to inform you that joint scientific meeting of national physiological societies, ie. from Slovakia and Serbia, will be organized in Kovacica. Our wish is having this meeting traditional, and to attract the physiologists from surrounding countries also. This time meeting is more directed to cardiovascular, neurophysiological and endocrinological research problems, however other biomedical topics will be also presented.

We are remembering that this close scientific cooperation started 10 years ago when Vladimir Strbak (president of *Slovak Physiological Society* at that time) during *FEPS Council* (held in 2003, Nice, France) supported the efforts of Dragan Djuric and Vladimir Jakovljevic (officials of *Serbian Physiological Society* at that time) for reintegration in the family of European physiological societies. In 2009 *Slovak Physiological Society* supported an idea to be published special issue of scientific journal *General Physiology and Biophysics*, dedicated to Professor Richard Burian (native Austrian born in Vienna however founder of medical physiology in Serbia). From that time we improved our friendship and scientific cooperation, developing bilateral research program and both participation in *EU COST BM 1005* as well as in global activities of the *International Academy of Cardiovascular Sciences*.

We really hope that this meeting is a unique opportunity for all participants to exchange their ideas and give their own contribution in this fruitful cooperation. Finally, Kovacica is not only the town where you will find typical Slovak spirit of life in a peaceful and tolerant atmosphere but also the place which is known for the worldwide recognized naïve art.

We appreciate your participation and wishing you warm welcome to Kovacica, Vojvodina and Serbia.

On behalf of the Program/Organizing Committee

Andrea Calkovska, Vladimir Strbak,
Vladimir Jakovljevic and Dragan Djuric

PROGRAM/ORGANIZING COMMITTEE

Calkovska A, Martin, *Organizing Committee Co-Chairman*
Djuric D, Belgrade, *Program Committee Co-Chairman*
Jakovljevic V, Kragujevac, *Organizing Committee Co-Chairman*
Strbak V, Bratislava, *Program Committee Co-Chairman*

Thursday, June 20th, 2013

18.00-18.30

Opening Ceremony/Welcome Messages

Chairpersons: Calkovska A, Djuric D, Jakovljevic V, Javorka K

18.30-19.00

Plenary Lecture

Strbak V, Bacova Z

Institute of Experimental Endocrinology, Slovak Academy of Sciences and Medical Faculty of the Slovak Medical University, Bratislava, Slovakia

CELL SWELLING: NOVEL REGULATORY SIGNAL AFFECTING VARIOUS FUNCTIONS

19.00 Welcome Reception/Cocktail

Friday, June 21st, 2013

Session 1: CELL AND SMOOTH MUSCLE PHYSIOLOGY

Chairpersons: Blagojevic D, Ondrias K

9.00-9.15

Brankovic S, Gocmanac-Ignjatovic M, Radenkovic M, Kitic D, Nesic M, Ilic S, Veljkovic M

Institute of Physiology, Faculty of Medicine, University of Nis, Nis, Serbia

SPASMOLYTIC ACTIVITY OF ESSENTIAL OIL OF *FOENICULUM VULGARE* MILLER (APIACEAE) ON ISOLATED RAT ILEUM CONTRACTIONS

9.15-9.30

Krstic D, Colovic M, Avramovic N, Djuric D, Vasic V

Institute of Medical Chemistry, School of Medicine, University of Belgrade, Belgrade, Serbia

ATP-ASES INHIBITORS: TOXICOLOGY AND PHARMACOLOGY

9.30-9.45

Misak A

Institute of Molecular Physiology and Genetics Slovak Academy of Sciences, Bratislava, Slovakia

BIOPHYSICAL CHARACTERIZATION OF MITOCHONDRIAL CHLORIDE CHANNELS AND THEIR MODULATORY FACTORS

9.45-10.00

Ondrias K

*Institute of Molecular Physiology and Genetics, Slovak Academy of Sciences,
Bratislava, Slovakia*

EFFECTS OF H₂S-DONORS ON MEMBRANE CHANNELS

10.00-10.15

Radenkovic M, Brankovic S, Kitic D, Veljkovic M, Mrkaic A

Institute of Physiology, Faculty of Medicine, University of Nis, Nis, Serbia

THE RELAXANT EFFECT OF *ALLIUM SATIVUM* L. BULB EXTRACTS ON
RAT ISOLATED TRACHEA

10.15-10.30

Scepanovic L, Stojanovic M, Bosnic O, Mitrovic D, Scepanovic V, Stojkovic M,
Ilic S, Stojanovic T, Djuric D

*Institute of Medical Physiology "Richard Burian", School of Medicine, University of
Belgrade, Belgrade, Serbia*

THE EFFECTS OF ACUTE ADMINISTRATION OF D, L-HOMOCYSTEINE
AND D, L-HOMOCYSTEINE THIOLACTONE ON ANTIOXIDATIVE STATUS
OF LIVER, INTESTINE AND COLON IN RATS

10.30-11.00 Pause

Session 2: NEUROPHYSIOLOGY AND NEUROENDOCRINOLOGY (part I)

Chairpersons: Jagla F, Radenovic L

11.00-11.15

Hrnec D, Rasic-Markovic A, Stojkovic T, Velimirovic M, Puskas N, Obrenovic R,
Susic V, Jakovljevic V, Djuric D, Petronijevic N, Stanojlovic O

*Institute of Medical Physiology "Richard Burian", School of Medicine, University of
Belgrade, Belgrade, Serbia*

EFFECTS OF METHIONINE - ENRICHED DIET ON THE
ACETYLCHOLINESTERASE IN THE RAT BRAIN

11.15-11.30

Jagla F

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

SENSORIMOTOR INTEGRATION IN HEALTH AND DISEASE

11.30-11.45

Nesic M, Radenkovic M, Brankovic S, Ciric M, Imeri S, Zivkovic I

Institute of Physiology, Faculty of Medicine, University of Nis, Nis, Serbia

ANTIDEPRESSANT EFFECT OF HYPERICUM PERFORATUM IN FORCED
SWIMMING TEST AND TAIL SUSPENSION TEST IN MICE

11.45-12.00

Radenovic L

Department of Physiology, Faculty of Biology, University of Belgrade, Belgrade, Serbia

NEUROPROTECTION IN EXPERIMENTAL CEREBRAL ISCHEMIA –
POTENTIAL GENE THERAPY?

12.00-12.15

Vuckovic S, Savic-Vujovic K, Srebro D, Medic B, Vujovic A, Prostran M

Institute of Pharmacology, Clinical Pharmacology and Toxicology, Faculty of Medicine, University of Belgrade, Serbia

EFFECTS OF MORPHINE AND FENTANYL DERIVATIVES ON BODY
TEMPERATURE IN RATS

12.15-15.00 Pause

Session 2: NEUROPHYSIOLOGY AND NEUROENDOCRINOLOGY (part II)

Chairpersons: Stanojlovic O, Strbak V

15.00-15.15

Bacova Z, Lestanova Z, Strbak V, Bakos J

Institute of Experimental Endocrinology, Slovak Academy of Sciences and Medical Faculty of the Slovak Medical University, Bratislava, Slovakia

DEVELOPMENTAL EFFECTS OF OXYTOCIN ON GENE EXPRESSION OF
CYTOSKELETAL PROTEINS AND GROWTH FACTORS IN THE RAT
HIPPOCAMPUS

15.15-15.30

Bakos J, Lestanova Z, Strbak V, Bacova Z

Institute of Experimental Endocrinology, Slovak Academy of Sciences and Medical Faculty of the Slovak Medical University, Bratislava, Slovakia

OXYTOCIN RECEPTOR LIGANDS INDUCE CHANGES IN CYTOSKELETON
IN NEUROBLASTOMA CELLS

15.30-15.45

Parohova J

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

EFFECTS OF MELATONIN IN THE CEREBELLUM OF RATS WITH
METABOLIC SYNDROME

15.45-16.00

Petrovic S, Milosevic M, Ristic-Medic D, Vucic V, Arsic A, Glibetic M, Horvat A

Department for Nutrition and Metabolism, Institute for Medical Research, University of Belgrade, Belgrade, Serbia

THE INVOLVEMENT OF ESTRADIOL RECEPTORS IN ESTRADIOL-
INDUCED MITOCHONDRIAL Ca^{2+} FLUX MODULATION IN RAT CAUDATE
NUCLEUS AND BRAIN STEM

16.00-16.15

Trifunovic S, Ajdzanovic A, Sosic-Jurjevic B, Manojlovic-Stojanoski M, Ristic N, Pantelic J, Milosevic V

Institute for Biological Research "Siniša Stanković", University of Belgrade, Belgrade, Serbia

SOY-DEPENDENT CHANGES IN THE MORPHO-FUNCTIONAL DATA OF THE PITUITARY ACTH CELLS IN ADULT RATS

16.15-16.30 Pause

Session 3: ENDOCRINOLOGY AND METABOLISM

Chairpersons: Nesic M, Pechanova O

16.30-16.45

Ciric M, Najman S, Bojanic V, Kalicanin B, Puskas N, Velimirovic D, Cekic S, Nesic M, Bojanic Z, Cvetkovic T

Institute of Physiology, Faculty of Medicine, University of Nis, Nis, Serbia

INFLUENCE OF SIMVASTATIN ON PLASMA LEVELS OF CALCIUM AND ALKALINE PHOSPHATASE ACTIVITY IN RATS NEONATAL TREATED WITH MONOSODIUM GLUTAMATE

16.45-17.00

Javorka M, Tonhajzerova I, Czippelova B, Turianikova Z, Chladekova L, Javorka K

Department of Physiology, Jessenius Faculty of Medicine, Comenius University, Martin, Slovakia

OBSESITY RELATED CHANGES IN BAROREFLEX SENSITIVITY: A CAUSAL APPROACH

17.00-17.15

Matuskova Z

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

AGE-DEPENDENT CHANGES OF NITRIC OXIDE GENERATION IN EXPERIMENTAL METABOLIC SYNDROME

17.15-17.30

Paulis L

Department of Pathological Physiology, Medical Faculty, Comenius University, Bratislava, Slovakia

NOVEL THERAPEUTIC TARGETS IN THE RAAS

17.30-17.45

Pechanova O

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

HYPERTENSION WITHIN THE CLUSTER OF METABOLIC SYNDROME: EXPERIMENTAL STUDY

17.45-18.00

Sosic-Jurjevic B, Filipovic B, Trifunovic S, Ajdzanovic V, Nestorovic N, Medigovic I, Milosevic V

Institute for Biological Research "Sinisa Stankovic", University of Belgrade, Belgrade, Serbia

SOY EXTRACT AND SOY ISOFLAVONES DO NOT AFFECT SERUM CHOLESTEROL AND TRIGLYCERIDE LEVELS IN ORCHIDECTOMIZED YOUNG ADULT RATS

18.00-18.15 Pause

18.15-19.15

Poster Session (5 min poster presentation with discussion)

Chairpersons: Rosic G, Javorka K

Calkovska A¹, Linderholm B², Haegerstrand-Bjorkman M², Johansson J², Curstedt T²

¹Jessenius Faculty of Medicine, Comenius University, Martin, Slovakia, ²Karolinska Institutet, Stockholm, Sweden

LUNG FUNCTIONS OF PREMATURE NEWBORN RABBITS WITH RESPIRATORY DISTRESS SYNDROME DEPEND ON PHOSPHOLIPID COMPOSITION OF PULMONARY SURFACTANTS BASED ON SURFACTANT PROTEINS B AND C ANALOGUES

Herichova I, Ambrusova J, Vesela A, Zeman M

Department of Animal Physiology and Ethology, Faculty of Natural Sciences, Comenius University, Bratislava, Slovakia

EFFECTS OF PHASE SHIFTS IN LIGHT REGIMENS MIMICKING SHIFT WORK ON CLOCK AND METABOLIC GENES AND SIGNAL PEPTIDES EXPRESSION IN THE RAT HEART

Javorka K, Javorka M, Lehotska Z, Uhríkova Z, Kozar M, Zibolen M

Department of Physiology and Neonatal Clinic, Jessenius Faculty of Medicine, Comenius University, Martin, Slovakia

HEART RATE AND ITS VARIABILITY IN NEWBORNS

Milojkovic M, Radovic J, Dunjic O, Bojanic V

Institute of Pathophysiology, Faculty of Medicine, University of Nis, Serbia

PC-1 K121Q GENETIC POLYMORPHISM IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

Mlynarcikova A, Havranek T, Fickova M

Institute of Experimental Endocrinology, Slovak Academy of Sciences, Bratislava, Slovakia

EFFECTS OF THE ENDOCRINE DISRUPTOR DI(2-ETHYLHEXYL) PHTHALATE IN A COMBINATION WITH 17 β -ESTRADIOL ON EXPRESSION OF APOPTOSIS- AND CELL CYCLE PROGRESSION-RELATED GENES IN THE MCF-7 BREAST CANCER CELL LINE

Rasic-Markovic A, Hrnčić D, Bjekić – Macut J, Susić V, Djurić D, Stanojlović O
Institute of Medical Physiology “Richard Burian”, School of Medicine, University of Belgrade, Belgrade, Serbia
EFFECTS OF CO-ADMINISTRATION OF L-ARGININE AND FOLIC ACID ON HOMOCYSTEINE THIOLACTONE-INDUCED SEIZURES IN ADULT RATS

Stojanović M, Scepanović L, Mitrović D, Scepanović V, Stojković M, Ilić S, Stojanović T, Djurić D
Institute of Medical Physiology “Richard Burian”, School of Medicine, University of Belgrade, Belgrade, Serbia
THE EFFECTS OF ACUTE ADMINISTRATION OF D, L-HOMOCYSTEINE AND D, L-HOMOCYSTEINE THIOLACTONE ON GASTROINTESTINAL TRACT MOTILITY IN RATS

Svorc P^{1,2}, Marossy A¹, Svorc P Jr.², Buzga M²
¹*Department of Physiology, Medical Faculty, Safarik University, Kosice, Slovakia*
²*Department of Physiology, Medical Faculty, Ostrava University, Ostrava, Czech Republic*
CHRONOBIOLOGY OF THE ELECTRICAL STABILITY OF THE HEART IN HYPOVENTILATION/REOXYGENATION RAT MODEL

Tomasova L^{1,2}, Kristek F³, Wood ME⁴, Whiteman M⁵, Ondrias K¹
¹*Institute of Molecular Physiology and Genetics, Slovak Academy of Sciences, Bratislava*, ²*Faculty of Pharmacy, Comenius University, Bratislava*, ³*Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Bratislava, Slovakia*, ⁴*Department of Biosciences, College of Live and Environmental Sciences, University of Exeter, Exeter*, ⁵*University of Exeter Medical School, Exeter, UK*
EFFECTS OF FAST Na₂S AND NOVEL SLOW H₂S DONORS, AP39 AND AP67, ON RAT HEMODYNAMIC PARAMETERS

Zeman M, Molčan L, Vesela A, Stebelová K, Okuliarová M, Herichová I
Department of Animal Physiology and Ethology, Faculty of Natural Sciences, Comenius University, Bratislava, Slovakia
NEGATIVE CONSEQUENCES OF DISTURBED RHYTHMIC ENVIRONMENTAL CONDITIONS ON CIRCADIAN RHYTHMS IN THE CARDIOVASCULAR SYSTEM

Zemancíková A, Torok J, Tabacková
Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Bratislava, Slovakia
EFFECT OF LONG-TERM TREATMENT WITH QUERCETIN ON BLOOD PRESSURE AND ARTERIAL REACTIVITY IN L-NAME - INDUCED HYPERTENSION

Saturday, June 22nd, 2013

Session 4: CARDIOVASCULAR PHYSIOLOGY (part I)

Chairpersons: Jovovic D, Zeman M

9.00-9.15

Barta A

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

STRUCTURAL ALTERATIONS OF HEART AND AORTA IN RATS WITH
METABOLIC SYNDROME

9.15-9.30

Bernatova I

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

EFFECT OF SOCIAL STRESS IN YOUNG RATS WITH PREDISPOSITION TO
HIGH BLOOD PRESSURE

9.30-9.45

Grman M

*Institute of Molecular Physiology and Genetics Slovak Academy of Sciences,
Bratislava, Slovakia*

MODULATION OF H₂S INDUCED S-NITROSOGLUTATHIONE
DECOMPOSITION BY pH AND LOW MOLECULAR THIOLS

9.45-10.00

Kristek F

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

DIFFERENT EFFECT OF CHRONIC NEURONAL NO SYNTHASE INHIBITION
ON CORONARY ARTERY OF WISTAR RATS AND SHR

10.00-10.15

Mijuskovic A, Nikolic-Kokic A, Slavic M, Orescanin-Dusic Z, Spasic M,
Blagojevic D

*Institute for Biological Research "Siniša Stanković", University of Belgrade,
Belgrade, Serbia*

SODIUM SULPHIDE PRECONDITIONING INCREASED ANTIOXIDANT
CAPACITY IN THE RAT HEART: POSSIBLE BENEFITIAL EFFECTS

10.15-11.00 Pause

Session 4: CARDIOVASCULAR PHYSIOLOGY (part II)

Chairpersons: Bernatova I, Miloradovic Z

11.00-11.15

Miloradovic Z, Ivanov M, Mihailovic-Stanojevic N, Grujic-Milanovic J, Jovovic D, Markovic-Lipkovski J

Department of Cardiovascular Physiology, Institute for Medical Research, University of Belgrade, Belgrade, Serbia

SUPEROXYDE RADICAL SCAVENGING REDUCES BLOOD PRESSURE WITHOUT INFLUENCING KIDNEY FUNCTION IN HYPERTENSIVE RATS WITH ACUTE RENAL FAILURE

11.15-11.30

Novokmet S, Misic M, Stojic I, Zivkovic V, Bugarcic Z, Jakovljevic V

Department of Physiology, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia

PLATINUM-INDUCED CARDIOTOXICITY AND OXIDATIVE STRESS IN ISOLATED RAT HEART

11.30-11.45

Torok J

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

CARDIOVASCULAR EFFECTS OF ALISKIREN IN RATS WITH EXPERIMENTAL HYPERTENSION

11.45-12.00

Cebova M

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

EFFECTS OF RENIN INHIBITOR-ALISKIREN IN SPONTANEOUSLY HYPERTENSIVE RATS

12.00-12.15

Zivkovic V, Vuletic M, Djordjevic D, Barudzic N, Djuric D, Jakovljevic V

Department of Physiology, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia

EFFECTS OF HOMOCYSTEINE AND HOMOCYSTEINE RELATED COMPOUNDS ON ISOLATED RAT HEART: FOCUS ON OXIDATIVE STRESS

12.15-15.00 Pause

Session 5: NUTRITION, EXERCISE, HYPERBARIC AND CLINICAL
PHYSIOLOGY

Chairpersons: Mitrovic D, Svorc P

15.00-15.15

Cubrilo D, Macura M, Zivkovic V, Vuletic M, Barudzic N, Jakovljevic V

Department of Physiology, US Medical School, European University, Belgrade, Serbia

SILENT INFLAMMATION AND REDOX STATUS IN YOUNG SOCCER PLAYERS: FOCUS ON SUPPLEMENTATION

15.15-15.30

Radovanovic D

Department of Physiology, Faculty of Physical Education, University of Nis, Nis, Serbia

INFLUENCE OF SEASONAL VARIATIONS IN TRAINING LOADS ON SELECTED CARDIOVASCULAR AND RESPIRATORY PARAMETERS IN COMPETITIVE JUDO ATHLETES

15.30-15.45

Ristic-Medic D, Vucic V, Arsic A, Petrovic S, Glibetic M

Department for Nutrition and Metabolism, Institute for Medical Research, University of Belgrade, Belgrade, Serbia

EFFICACY OF A THERAPEUTIC CHANGE IN DIETARY HABITS ON OMEGA-3 INDEX AND KEY FATTY ACID RATIOS IN SERUM AND ERYTHROCYTE PHOSPHOLIPIDS IN PATIENTS WITH CARDIOMETABOLIC RISK

15.45-16.00

Veselinovic M, Djuric D, Zivkovic V, Vuletic M, Barudzic N, Tasic N, Tasic D, Jakovljevic V

Department of Rheumatology, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia

OXIDATIVE STRESS IN RHEUMATOID ARTHRITIS: RESULTS OF THE CLINICAL STUDY

16.00-16.15

Vuletic M, Stojimirovic B, Pesic S, Milankovic M, Barudzic N, Tasic D, Tasic N, Jakovljevic V

Department of Physiology, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia

OXIDATIVE STRESS IN RENAL FAILURE: RESULTS OF THE CLINICAL STUDY

16.15-16.30

Zivkovic M, Baskot B

HBO Medical Center, Belgrade, Serbia

COMBINED THERAPEUTIC APPLICATION OF ERYTHROPOIETIN AND HYPERBARIC OXYGENATION IN ISCHEMIC AND NON-ISCHEMIC CARDIOMYOPATHY

16.30-17.00 Pause

17.00-18.00

ROUND TABLE: “3Rs - FROM ETHICS TO SCIENTIFIC EVIDENCE”

organized by *National Animal Welfare Council of Serbia* and *Bioethics Society of Serbia*

Chairpersons: Djurasevic S, Vucinic M, Todorovic Z

Djurasevic S

Faculty of Biology, University of Belgrade, Belgrade, Serbia

RE-USING EXPERIMENTAL ANIMALS

Vucinic M

Faculty of Veterinary Medicine, University of Belgrade, Belgrade, Serbia

ENVIRONMENTAL ENRICHMENT FOR LABORATORY ANIMALS

Savic M

Faculty of Pharmacy, University of Belgrade, Belgrade, Serbia

ANIMAL BEHAVIOUR EXPERIMENTS AND 3Rs

Todorovic Z

Faculty of Medicine, University of Belgrade, Belgrade, Serbia

EXTRAPOLATION OF EXPERIMENTAL DATA FROM ANIMALS TO MAN:
DOES IT COUNT?

Trbovic A

Faculty of Medicine, University of Belgrade, Belgrade, Serbia

TRANSGENIC ANIMALS AND 3Rs

18.00-18.15 Pause

18.15-19.15 Serbian Physiological Society (reserved time)

20.00 Gala Dinner

*** Surnames are given following alphabetical order.*

