

**The XVIII International Symposium
of the Polish Network of Molecular
and Cellular Biology**



**MOLECULAR and PHYSIOLOGICAL
ASPECTS of REGULATORY
PROCESSES of the ORGANISM**

PROGRAMME

**Cracow, Poland
17-18 September, 2009**

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ACNOWLEDGEMENTS

This congress is held under the auspices of the Polish
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GENERAL PROGRAM of XVIII INTERNATIONAL SYMPOSIUM

September 17, 2009 (Thursday)

9.00-11.30	Plenary Session I
11.30-13.30	Poster Session I
13.30-14.30	Dinner
15.00-17.15	Plenary Session II
17.15-18.30	Poster Session II

September 18, 2009 (Friday)

8.00-11.00	Plenary Session III
11.00-13.00	Poster Session III
13.00-15.00	Plenary Session IV
15.00-16.00	Conclusion

CHRONOLOGICAL LIST OF SCIENTIFIC SESSIONS

8.30 a.m Opening of the XVIII International Symposium
Prof. dr hab Henryk Lach Rector of the Jozef Dietl
Malopolska Higher Vocational School in Cracow

PLENARY SESSION I

Session will be held at the Congress Center University of
Agriculture in Cracow, 29 Listopada Street no 46

Chairpersons: Krzysztof Wędzony
Irena Nalepa
Agnieszka Basta-Kaim
Jerzy Vetulani

A: LECTURES (9.00 -11.30)

9.00-9.20 Danuta Jantas, Władysław Lasoń: **The influence of memantine on neuronal apoptotic processes in vitro.**

(Institute of Pharmacology, Polish Academy of Sciences in Cracow)

9.20-9.40 Helena Domin, Maria Śmiałowska: **Neuroprotective effects of group I metabotropic glutamate receptors antagonists in vitro and in vivo models.**

(Institute of Pharmacology, Polish Academy of Sciences in Cracow)

9.40-10.00 Magdalena Zaniewska¹, Małgorzata Filip¹, Andrew C. McCreary², Agata Faron-Górecka¹, Maciej Kuśmider¹, Ewa Nowak¹, Karolina Wydra¹, Marta Dziedzicka-Wasylewska¹, Edmund Przegaliński¹: **Repeated nicotine-induced changes in [³H] ketanserin binding to serotonin (5-HT)_{2A} receptors in the rat brain.**

(¹Institute of Pharmacology, Polish Academy of Sciences in Cracow, Poland; ²Solvay Pharmaceuticals Research Weesp, The Netherlands)

10.00-10.20 Przemysław Adamczyk¹, Małgorzata Filip¹, Andrew C. McCreary², Karolina Wydra¹, Ewa Nowak¹, Edmund Przegaliński¹: **On the impact of enhanced endocannabinoid neurotransmission on the behavioral effects of cocaine in rats.**

(Institute of Pharmacology, Polish Academy of Sciences in Cracow)

10.20-11.00 DISCUSSION

11.00-11.30 Tea/Coffee Break

POSTER SESSION I

Session will be held at the Congress Center University of
Agriculture in Cracow, 29 Listopada Street no 46

Chairpersons: Zbigniew Dąbrowski
Marian Lewandowski
Lidia Mazur
Barbara Bilińska
Eugenia Tęgowska
Anna Lityńska
Grażyna Barbacka-Surowiak
Józef Surowiak

B: POSTERS (11.30-13.30)

**P-I-1 The influence of ambient temperature on TNF- α profile
in female Wistar strain rats in normoxia conditions.**

A. Baran¹, B. Borowicz¹, A. Nadulska¹, B. Cygan¹, M.
Teter¹, D. Morawska²

*(¹Department of Human Physiology, Medical University of
Lublin; ²1st Department of Gynecology, Medical University
of Lublin)*

**P-I-2 The effect of antipsychotic drugs on the hypothalamic-
pituitary-adrenal axis regulation in an animal model of
schizophrenia.**

Basta-Kaim A.¹, Budziszewska B.¹, Leśkiewicz M.¹,
Kubera M.¹, Regulska M.¹, Rogóż Z.², Lason W.¹

*(¹Department of Experimental Neuroendocrinology,
Institute of Pharmacology, PAS, Cracow, Poland,
² Department of Pharmacology, Institute of Pharmacology,
PAS, Cracow, Poland)*

P-I-3 Impact of psychotropic drugs on the inhibitory effect of interleukin 1 on the glucocorticoid receptor-mediated gene transcription.

Basta-Kaim A.¹, Budziszewska B.¹, Leśkiewicz M.¹, Regulska M.¹, Kubera M.¹, Nowak W.², Jagła G.^{2,3}, Jantas D.¹, Korzeniak B.¹, Lasoń W.¹

(¹Department of Experimental Neuroendocrinology, Institute of Pharmacology, PAS, Cracow, Poland; ²Department of Anatomy, Jagiellonian University, Medical College, Cracow, Poland; ³Department of Pain Treatment and Palliative Care, Jagiellonian University, Medical College, Cracow, Poland)

P-I-4 Activity of adrenal cortex in ethanol-treated rats.

Beszczynska B., Siejka A.

(Department of Animal Physiology, Institute of General and Molecular Biology, N. Copernicus University, Toruń, Poland)

P-I-5 Inhibitory effect of neurosteroids on basal and forskolin-stimulated crh gene transcription.

Budziszewska B.¹, Leśkiewicz M.¹, Kaciński M.², Basta-Kaim A.¹, Regulska M.¹, Kubera M.¹, Jaworska-Feil L.¹, Korzeniak B.¹, Lasoń W.¹

(¹Department of Experimental Neuroendocrinology, Institute of Pharmacology, Polish Academy of Science, Cracow, Poland; ²Chair of Pediatric and Adolescent Neurology, Jagiellonian University, Cracow, Poland)

P-I-6 Ghrelin and obestatin in rat pancreas. Localization and action.

J. Chmielewska, D. Domin, K. M. Andrałojć, D. Szczepankiewicz, P. Sz wajkowski, K. W. Nowak

(Department of Animal Physiology and Biochemistry, Poznan University of Life Sciences).

- P-I-7 Electron microscopic analysis of LPS-preconditioning hippocampal neuroprotection in epileptic rats.**
 Cybulska R.¹, Jaworska-Adamu J.², Dmowska M.,
 Pawlikowska-Pawłęga B.², Schoenborn R., Gawron A.²
(¹Department of Histology and Embryology, University of Life Science, Faculty of Veterinary Medicine, Lublin; ²Department of Animal Physiology, Institute of Biology, M. Skłodowska-Curie University, Lublin; Department of Comparative Anatomy and Anthropology, Institute of Biology, M. Skłodowska-Curie University, Lublin, Poland)
- P-I-8 The influence of the immobilization stress on long-term depression in the dentate gyrus of mice.**
 J. Danielewicz¹, G. Hess^{1,2}
(¹Institute of Zoology, Jagiellonian University, Cracow, Poland; ²Institute of Pharmacology PAS, Cracow, Poland)
- P-I-9 Characterization of the thermoregulatory component of LPS- preconditioning in rats.**
 Dmowska M., Schoenborn R.
(Department of Animal Physiology, Institute of Biology, Maria Skłodowska-Curie University, Lublin)
- P-I-10 Effect of sotalol on the depressor responses evoked by stimulation of vagus nerve in the rabbit.**
 S. Dyba, M. Teter, A. Nadulska, B. Cygan, M. Deczlichtyng
(Department of Human Physiology Medical University of Lublin)
- P-I-11 Dependence of brain development, function and aging on the nutrition.**
 D. Flak¹, A. Greń¹, M. Czauderna², A. Gajewska²,
 K.Kochman²
(¹Department of Biochemistry and Animal Physiology, Pedagogical University, Cracow, Poland. ²Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Jablonna near Warsaw, Poland)

P-I-12 Effects of nutrition on the brain development, its function and aging.

D. Flak¹, A. Greń¹, M. Czauderna², A. Gajewska², K. Kochman^{2*}

(¹Department of Biochemistry and Animal Physiology, Pedagogical University, Cracow, Poland;

²Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Jablonna near Warsaw, Poland)

P-I-13 Egr-1 protein affects Egr-1, Pitx-1 and LHβ genes expression in the anterior pituitary gland of female rat, in vivo.

A. Gajewska¹, A. Herman¹, E. Wolińska-Witort², K. Kochman¹

(¹Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Jablonna near Warsaw, Poland

²Department of Neuroendocrinology, Postgraduate Medical Education Center, Warsaw, Poland.)

P-I-14 Interleukin-1β and prostaglandins in the hypothalamic-pituitary-adrenal response to adrenergic stimulation under basal and stress conditions.

A. Gądek-Michalska¹, A.J. Bugajski², J. Bugajski¹

(¹Department of Physiology, Institute of Pharmacology, Polish Academy of Sciences, Cracow, Poland; ²Department of Pathophysiology, Jagiellonian University Medical College, Cracow, Poland)

P-I-15 Effect of interleukin-1β on the expression of GnRH and GnRH-R in the hypothalamus and GnRH-R and LHβ genes in the anterior pituitary gland of anestrus ewes.

A. Herman, T. Misztal, D. Tomaszewska – Zaremba

(The Kielanowski Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Jablonna near Warsaw)

P-I-16 Impact of serum deprivation on lactacystin- and rotenone-induced cell death of undifferentiated and neuronal differentiated SH-SY5Y cells.

D. Jantas¹, J. Konieczny², T. Lenda², W. Lasoń¹, E. Lorenc-Koci²

(¹Department of Experimental Neuroendocrinology, ²Department of Neuropsychopharmacology, Institute of Pharmacology, Polish Academy of Science, Cracow, Poland)

P-I-17 The influence of vanadium and magnesium on rat hepatocytes morpholog in histological study.

A. Kopacz-Bednarska¹, A. Ścibior², H. Zaporowska², T. Król¹, E. Trybus¹, D. Gołębiowska² W. Trybus¹

(¹Department of Cell Biology, Institute of Biology, The Jan Kochanowski University of Humanities and Sciences, Kielce, Poland; ²Department of Cell Biology, Institute of Environmental Protection, Catholic University of Lublin, Poland)

P-I-18 Role of serotonin in the control of animal's aggressive behavior.

M. Koprowska, M. Krotewicz

(Laboratory of Neurophysiology, University of Lodz)

P-I-19 Behavioral and neurochemical consequences of alpha 2-adrenoceptor stimulation.

M. Krotewicz, M. Koprowska

(Laboratory of Neurophysiology, University of Lodz)

P-I-20 Selective cyclooxygenase inhibitors cooperate with afferent sensory nerves to modify oxidative stress during onset of acute gastric mucosal injury.

S. Kwiecień, M. W. Pawlik, M. Mitis-Musioł, Z. Śliwowski, J. Cieszkowski, U. Szczyrk, M. Cieszkowski, T. Brzozowski, W. W. Pawlik, S.J. Konturek

(Department of Physiology Jagiellonian University Medical College, Cracow, Poland)

P-I-21 The influence of ionizing radiation in dose 2Gy on the morphological profile of mouse liver cell.

M. Łysek-Gładysińska¹, T. Król¹, A. Wieczorek¹,
M. Pietrowska², A. Walaszczyk²

(¹Department of Cell Biology, Institute of Biology, The Jan Kochanowski University of Humanities and Sciences, Kielce, Poland; ²Department of Experimental and Clinical Radiobiology, Maria Skłodowska-Curie Cancer Center and Institute of Oncology, Gliwice, Poland)

P-I-22 PKC inhibitor markedly affects both IP₃/PKC and cGMP/PKG signaling pathways in gonadotropic cells treated with Cu-GnRH.

A. Michaluk¹, A. Gajewska¹, E. Wolińska-Witort²,
K. Kochman¹

(¹Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Jablonna near Warsaw, Poland.

².Department of Neuroendocrinology, Postgraduate Medical Education Center, Warsaw, Poland.)

P-I-23 PKA inhibitor markedly affects both cAMP/PKA and cGMP/PKG signaling pathways in gonadotropic cells treated with Cu-GnRH.

A. Michaluk¹, A. Gajewska¹, E. Wolińska-Witort²,
K. Kochman¹

(¹Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Jablonna near Warsaw, Poland.

².Department of Neuroendocrinology, Postgraduate Medical Education Center, Warsaw, Poland.)

P-I-24 Lack of effect of sildenafil on cocaine-induced convulsions in mice.

D. Nieoczym, K. Socała, P. Właż

(Department of Animal Physiology, Institute of Biology, Maria Curie-Skłodowska University, Lublin, Poland)

P-I-25 Genistein effects in porcine adipocytes

L. Nogowski, A. Kucharska, K. Szkudelska

(Department of Animal Physiology and Biochemistry, Poznan University of Life Sciences, Poznan)

- P-I-26 Rats hippocampal interneurons in chronic mild stress. Immunohistochemical analysis.**
Nowak B., Zadrożna M., Siwek A.
(Department of Cytobiology, Collegium Medicum, Jagiellonian University, Cracow, Poland)
- P-I-27 Rod-cone photoreception: contribution to the mechanism of generation of slow oscillatory activity in the olivary pretectal nucleus.**
P. Orłowska, E. Tokarczyk, H. J. Szkudlarek, M. H. Lewandowski
(Department of Neurophysiology and Chronobiology, Institute of Zoology, Jagiellonian University, Cracow)
- P-I-28 The contribution of an endogenous inhibitor of nitric oxide (NO) synthase, asymmetric dimethylarginine (ADMA), to the pathomechanism of stress- and ischemia-reperfusion-induced acute gastric lesions**
R. Pajdo, M. Pawlik, D. Drozdowicz, S. Kwiecień, Z. Śliwowski, A. Ptak-Belowska, M. Mitis-Musioł, T. Brzozowski, S.J. Konturek, W.W. Pawlik
(Department of Physiology Jagiellonian University Medical College, Cracow, Poland)
- P-I-29 The influence of orexin A on activity of the Suprachiasmatic neurons- in vitro studies.**
K. Pietrajtis, D. Pękala, T. Błasiak, M. H. Lewandowski
(Department of Neurophysiology and Chronobiology, Institute of Zoology, Jagiellonian University, Cracow, Poland)
- P-I-30 Expression of prepro-ghrelin and related receptor genes in the rat adrenal gland and evidences that ghrelin exerts a potent stimulating effect on corticosterone secretion by cultured rat adrenocortical cells.**
M. Ruciński, A. Ziółkowska, M. Tyczewska, L. K. Malendowicz
(Department of Histology and Embryology, Poznan University of Medical Sciences, Poznan, Poland)

P-I-31 DTG, a sigma receptor ligand, fails to affect the plasma corticosterone concentration in rats subjected to the forced swim test.

G. Skuza¹, Z. Rogóż¹, B. Budziszewska²

(¹Department of Pharmacology; ²Department of Experimental Neuroendocrinology, Institute of Pharmacology, Polish Academy of Sciences, Cracow, Poland)

P-I-32 Effect of sildenafil, a phosphodiesterase type 5 inhibitor, on the activity of some antidepressant drugs in the forced swim test in mice.

K. Socała¹, D. Nieoczym¹, E. Poleszak², P. Wlaz¹

(¹Department of Animal Physiology, Institute of Biology, Maria Curie-Skłodowska University, Lublin, Poland; ²Department of Pharmacology and Pharmacodynamics, Medical University of Lublin, Poland)

P-I-33 Resveratrol and genistein – ATP decreasing factors in isolated rat adipocytes

K. Szkudelska, L. Nogowski, T. Szkudelski

(Department of Animal Physiology and Biochemistry, Poznan University of Life Sciences)

P-I-34 Immunohistochemical localization of endocrine cells in lizard pancreatic islets.

P. Szwajkowski^{1,2}, K. M. Andrałojć¹, J. Chmielewska¹, K. Kasprzak², D. Zimmermann¹, A. Zywert¹, K. W. Nowak¹

(¹Department of Animal Physiology and Biochemistry; ²Division of Rural Tourism, Poznan University of Life Sciences)

P-I-35 The effect of nickel on activity of superoxide dismutase, catalase and glutathione peroxidase in rabbits organs.

Świdarska-Kończak G.^{1,3}, Klusek J.¹, Kołataj A.², Marwicka J.⁴, Lubacha A.¹, Wiśniewska M.¹

(¹The Jan Kochanowski University of Humanities and Sciences, Institute of Biology, Department of Animal Physiology, Kielce, Poland)

P-I-36 Activity of glutathione transferase and glutathione reductase in rabbits organs after nickel administration
Świdarska-Kończ G.^{1,3}, Klusek J.¹, Kołataj A.², Parka B.³, Zmorzyński S.⁴

(¹The Jan Kochanowski University of Humanities and Sciences, Institute of Biology, Department of Animal Physiology, Kielce, Poland)

P-I-37 The change of content the reduced glutathione and MDA after nickel administration in the liver, kidney, muscle and heart of rabbits.

Świdarska-Kończ G.^{1,3}, Klusek J.¹, Kołataj A.², Niedzielska A.³ Stasiowska A.¹, Nowak K.¹

(¹The Jan Kochanowski University of Humanities and Sciences, Institute of Biology, Department of Animal Physiology, Kielce, Poland)

P-I-38 Time-dependent changes in the ultrastructure of CHO cells following budesonide administration.

Trybus E.¹, Kopacz-Bednarska A.¹, Lach H.², Trybus W.¹, Król T.¹

(¹Department of Cell Biology, Institute of Biology, The Jan Kochanowski University of Humanities and Sciences, Kielce, Poland; ²Jozef Dietl Malopolska Higher Vocational School in Cracow, Poland)

P-I-39 Evaluation of the viability of Chinese Hamster Ovary cells treated with aloe-emodin.

Trybus W., Król T., Trybus E., Kopacz-Bednarska A.
(Department of Cell Biology, Institute of Biology, The Jan Kochanowski University of Humanities and Sciences, Kielce, Poland)

P-I-40 Time of escape of Roborowski hamster (*Phodopus roborovskii*) from hot and cold plate after Tweed 80 and capcaisin injection.

O. Widlińska, E. Tęgowska

(Department of Animal Toxicology, Institute of General and Molecular Biology, Nicolaus Copernicus University in Torun)

P-I-41 Radiation - induced ultrastructural changes in mouse's liver after dose of 8 Gy per fraction.

Wieczorek A., Król T., Łysek-Gładysińska M.

(Department of Cell Biology, Institute of Biology, The Jan Kochanowski University of Humanities and Sciences, Kielce, Poland)

P-I-42 Cloning and expression analysis of the fragment of insulin receptor substrate in the course of development of red mason bee (*Osmia rufa* L.)

Z. Wilkaniec¹, M. Skrzypski², M. Ciupa¹, K. W. Nowak²

(¹Department of Apidology and ²Department of Animal Physiology and Biochemistry, Poznań University of Life Science)

P-I-43 Interaction between cytostatic drugs and glycoprotein P.

I. Winiarska¹, R. Sparidans², A. Rutkowska¹, A.

Moniczewski¹

(¹Department of Toxicology, Jagiellonian University, Medical College, Cracow, Poland; ²Faculty of Pharmaceutical Sciences, Utrecht University, The Netherlands)

P-I-44 Antinociceptive activity of naproxen coated by lyotropic liquid crystals.

A. Yuksel¹, T. Librowski², B. Filipek²,

(¹Department of Pharmaceutics, Faculty of Pharmacy, Mersin University, Turkey;

²Dept. of Pharmacodynamics, Medical College, Jagiellonian University, Cracow, Poland)

P-I-45 Immunohistochemical analysis of GABA-ergic neurons of the rats prefrontal cortex in mild chronic stress.

Zadrozna M., Nowak B., Motyka B., Siwek A.

(Department of Cytobiology and Histochemistry, Collegium Medicum, Jagiellonian University, Cracow, Poland)

P-I-46 Adiponectin and its receptors system in the rat adrenal gland.

T. Zemleduch, Ł. Paschke

(Students' Scientific Circle, Department of Histology and Embryology, Poznan University of Medical Sciences, Poznan, Poland)

P-I-47 Neuropeptide B (NPB) and neuropeptide W (NPW) system in cultured rat calvarial osteoblast-like (ROB) cells. NPW and NPB inhibit proliferative activity of ROB cells.

A. Ziółkowska, M. Ruciński, M. Szyszka,
L. K. Malendowicz

(Department of Histology and Embryology, Poznan University of Medical Sciences, Poznan, Poland)

P-I-48 Comparison of aspirin and its novel nitric oxide (no) derivative in the healing of the colonic damage in the experimental model of ulcerative colitis.

M. Zwolińska-Wcisło², A. Ptak-Belowska¹, Z. Śliwowski¹,
D. Drozdowicz¹, R. Pajdo¹, M. Pawlik¹, S. Kwiecień¹, T.
Brzozowski¹, S. J. Konturek¹, T. Mach², W.W. Pawlik¹

(¹Department of Physiology & ²Gastroenterology Clinic Jagiellonian University Medical College, Cracow, Poland)

P-I-49 Amylolytic activity of human's saliva in different feeding conditions.

Zywert A., Domin D., Polak O., Refermat A., Szwajkowski,
P., Nowicka E., Maćkowiak P.

(Department of Animal Physiology and Biochemistry. Poznan University of Life Sciences, Poznan, Poland)

P-I-50 Ghrelin and obestatin action on insulin secretion from perfused rat pancreas.

A. Zywert, J. Chmielewska, P. Maćkowiak, K.W. Nowak

(Department of Animal Physiology and Biochemistry. Poznan University of Life Sciences, Poznan, Poland)

P-I-51 Microvascularization of the rats pancreas and its physiological consequences.

Zywert A.¹, Jakubowski H.², Maćkowiak P.¹

(¹Department of Animal Physiology and Biochemistry. Poznan University of Life Sciences, Poznan, Poland;

²Department of Animal Anatomy, Poznan University of Life Sciences, Poznan, Poland)

P-I-52 Physiological and anatomical aspect of blood circulation in the giraffe

A. Zywert¹, H. Jakubowski², H. Frąckowiak²

(¹Department of Animal Physiology and Biochemistry;

²Department of Animal Anatomy; University of Life Sciences in Poznan)

PLENARY SESSION II

Session will be held at the Congress Center University of
Agriculture in Cracow, 29 Listopada Street no 46

Chairpersons: **Kazimierz Kochman**
Krystyna Pierzchała-Koziec
Barbara Plytycz
Janusz Rząsa
Włodzimierz Korohoda

A: LECTURES (15.00-17.15)

- 15.00-15.25** Krystyna Pierzchała-Koziec: **Ghrelin – direct and indirect influence on the growth and development.** (*Department of Animal Physiology, University of Agriculture Cracow, Poland*)
- 15.25-15.50** Lidia Mazur: **Apoptosis, necrosis and autophagy.** (*Department of Experimental Hematology, Jagiellonian University, Cracow, Poland*)
- 15.50-16.15** Elżbieta Kołaczowska: **Metalloproteinase 9 knockout mice: pros and cons of studies on transgenic mice.** (*Department of Evolutionary Immunobiology, Jagiellonian University, Cracow, Poland*)
- 16.15-16.40** Justyna Drukała: **Maternal cells as alternative source for transplant tissues and organs.** (*Department of Cell Biology, Jagiellonian University, Cracow, Poland*)

16.40-17.00 DISCUSSION

17.00-17.15 Tea/Coffee Break

POSTER SESSION II

Session will be held at the Congress Center University of
Agriculture in Cracow, 29 Listopada Street no 46

Chairpersons: Teodora Król
Krystyna Skwarło-Sońta
Anna Kordowiak
Paweł Maćkowiak
Leszek Nogowski
Krzysztof Nowak
Jolanta Jaworek
Grzegorz Hess

B - POSTERS: (17:15 – 18:30)

P-II-1 Impact of capsaicin on thermal preferences of stick insect *Medauroidea extradentata*

B. Adamkiewicz, K. Klimek, J. Olszewska, B. Grajpel,
E. Tęgowska

*(Department of Animal Toxicology, Institute of General and
Molecular Biology, Nicolaus Copernicus University in
Torun)*

P-II-2 Obestatin influences proliferation Caco-2 intestinal epithelial cells in long-time and short-term in-vitro studies.

H. Antushevich¹, A. Jankowska¹, M. Kapica², R. Zabielski³
*(¹The Kielanowski Institute of Animal Physiology and
Nutrition, Polish Academy of Sciences, Jablonna, Poland;
²Department of Biochemistry and Animal Physiology,
Faculty of Veterinary Medicine, University of Life Sciences
in Lublin; ³Department of Physiological Sciences, Faculty
of Veterinary Medicine, Warsaw University of Life
Sciences, Warsaw, Poland)*

P-II-3 Influence of rye extrudate on antioxidant and biochemical parameters of plasma and erythrocytes in high-fructose-diet fed rats.

H. Bartoń¹, M. Folta¹, D. Gumul², J. Korus², P. Paško¹,
P. Zagrodzki^{1,3}, M. Krośniak¹, Z. Zachwieja¹, M. Gawlik⁴,
M. Gawlik⁴

(¹Department of Food Chemistry and Nutrition, Medical College, Jagiellonian University, Cracow, Poland;

²Department of Carbohydrates Technology, Food Technology, University of Agriculture in Cracow, Poland;

³Laboratory of Physicochemistry and Radioisotopes, Department of Nuclear Physicochemistry, The Henryk Niewodniczański Institute of Nuclear Physics, Polish Academy of Sciences, Cracow, Poland;

⁴Department of Toxicology, Medical College, Jagiellonian University, Cracow, Poland)

P-II-4 Differences between phase response curves for R-(+) -8-OH-DPAT and for R-(+) -8-OH-DPAT applied together with dark pulses in constant light in mice.

R. Bartoszewicz, G. Barbacka-Surowiak

(Department of Neurophysiology and Chronobiology, Institute of Zoology, Jagiellonian University, Cracow)

P-II-5 Does leptin modulate apoptosis in the ar42j?

J. Bonior¹, J. Jaworek¹, S.J. Konturek², W.W. Pawlik²

(¹Department of Medical Physiology Faculty of Health Sciences; ²Chair of Physiology Medical Faculty, School of Medicine Jagiellonian University, Cracow)

P-II-6 The influence of low environmental temperature on interleukin-6 profile in mice in hypoxic conditions.

B. Borowicz, A. Baran, A. Nadulska, M. Dec-Szlichtyng,
B. Cygan

(Department of Human Physiology, Medical University of Lublin)

- P-II-7 The effects of growth factors on liver cells proliferation**
J. Fedorczyk, E. Ocioń, J. Zubel, K. Pierzchała-Koziec
(*Department of Animal Physiology, University of Agriculture, Cracow, Poland*)
- P-II-8 Phylogenetic relationships between European populations of fire-bellied toads (*Bombina orientalis*, *Bombina orientalis*) based on nuclear and mitochondrial genes**
A. Fijarczyk
(*Department of Comparative Anatomy, Institute of Zoology, Jagiellonian University, Poland*)
- P-II-9 Interleukin-1 β and prostaglandins in the hypothalamic – pituitary – adrenal response to adrenergic stimulation under basal and stress conditions**
Gądek-Michalska A., Bugajski A.J.¹, Bugajski J.
(*Department of Physiology, Institute of Pharmacology, Polish Academy of Sciences, Cracow, Poland;*
¹*Department of Pathophysiology, Jagiellonian University Medical College, Cracow, Poland*)
- P-II-10 A distinct effect of a group size on the thermal behaviour of the honeybee *Apis mellifera* L.**
Grodzicki P., Caputa M., Ruciński M., Wiczerzak R.
(*Department of Animal Physiology, Institute of General and Molecular Biology, N. Copernicus University, Torun*)
- P-II-11 Apoptosis and proliferation in the chicken embryonic mesonephros.**
Grzegorzewska A.K., Hrabia A., J.Rząsa
(*Department of Animal Physiology, Agricultural University in Cracow*)
- P-II-12 Apoptosis and proliferation in the chicken embryonic ovary.**
Grzegorzewska A.K., Hrabia A., Rząsa J.
(*Department of Animal Physiology, Agricultural University in Cracow*)

P-II-13 Chloragogen tissue in earthworms – comparative study.

Homa J., Kłapcińska J., Płytycz B.

(Department of Evolutionary Immunobiology; Jagiellonian University, Cracow, Poland)

P-II-14 Anti-apoptotic action of growth hormone in the chicken ovary during maturation.

Hrabia A., Rzaśa J.

(Department of Animal Physiology, University of Agriculture in Cracow)

P-II-15 Expression of GH receptor in the ovary of laying hen.

Hrabia A., Rzaśa J.

(Department of Animal Physiology, University of Agriculture, Cracow)

P-II-16 Effect of ortho- and meta-vanadate [V(V)] and BMOV bis(maltolato)oxovanadium [V(IV)] on human lung cancer cells line A549.

A. M. Kordowiak, M. Kwas, M. Malada, P. Holko, W. Dąbroś¹

(Department of General Biochemistry, Faculty of Biochemistry, Biophysics and Biotechnology; ¹Department of Clinical and Experimental Pathomorphology, Faculty of Medicine CM Jagiellonian University, Cracow, Poland)

P-II-17 Selection of morphologically abnormal mouse spermatozoa in female genital tract.

Kotarska K., Lenartowicz M.

(Department of Genetics and Evolution, Institute of Zoology, Jagiellonian University, Cracow)

P-II-18 Meiotic defect in oocytes of the LT/Sv mice has cytoplasmic origin and is age-dependent.

Król M.¹, Hoffmann S.², Polański Z.^{1,2}

(¹Department of Genetics & Evolution, Institute of Zoology, Jagiellonian University, Cracow, Poland; ²Department of Developmental Biology, Max Planck Institute of Immunobiology, Freiburg, Germany)

P-II-19 Influence of the *Trp53* gene on murine sperm quality

Lech T., Styryna J.

(Department of Genetics and Evolution, Institute of Zoology, Jagiellonian University, Cracow, Poland)

P-II-20 Melatonin induces apoptosis in human pancreatic carcinoma cells (PANC-1)

A. Leja-Szpak¹, J. Jaworek¹, P. Pierzchalski¹, W. Pawlik²
(¹*Department of Medical Physiology Faculty of Health Sciences;* ²*Chair of Physiology Medical Faculty, School of Medicine Jagiellonian University, Cracow, Poland*)

P-II-21 The interplay between the genetic background and Y chromosome in controlling sperm quality.

M. Marciniak, K. Wilk, J. Styrna
(*Department of Genetics and Evolution, Institute of Zoology, Jagiellonian University, Cracow, Poland*)

P-II-22 Ovary structure and transovarial transmission of endosymbiotic microorganisms in *Myzocallis walschii* and *Clethrobius comes* (Insecta, Hemiptera, Aphidinea: Drepanosiphidae)

A. Michalik
(*Department of Systematic Zoology and Zoogeography, Jagiellonian University, Cracow, Poland*)

P-II-23 Effects of riboflavin on coelomocyte activity

A. I. Mazur, B. Płytycz
(*Department of Evolutionary Immunobiology, Institute of Zoology, Jagiellonian University, Cracow, Poland*)

P-II-24 Effects of riboflavin on iNOS expression and HMGB1 release during zymosan-induced peritonitis in mice

A. I. Mazur, B. Płytycz
(*Department of Evolutionary Immunobiology, Jagiellonian University, Cracow, Poland*)

P-II-25 The influence of hypoxic conditions on interleukin - 6 profile in mice.

A. Nadulska, A. Baran, B. Borowicz, S. Dyba
(*Department of Human Physiology, Medical University of Lublin*)

P-II-26 Western Blot confirmation of ghrelin receptor GHS-R1a in the different tissues.

E. Ocioń, K. Pierzchała-Koziec, J. Zubel, J. Fedorczyk
(*Department of Animal Physiology, University of Agriculture, Cracow*)

P-II-27 Influence of capsaicin on toxicity of oxadiazine insecticide in mealworm (*Tenebrio molitor*).

J. Olszewska, B. Adamkiewicz, B. Grajpel, E. Tęgowska
(*Department of Animal Toxicology, Institute of General and Molecular Biology, Nicolaus Copernicus University*)

P-II-28 Effects of Biodribin on leukemic cells.

M. Opydo-Chanek¹, M. Stojak¹, A. Galus¹, J. Baran², G. Zwierzyńska³, P. Borowicz³, L. Mazur¹
(¹*Department of Experimental Hematology, Institute of Zoology, Jagiellonian University, Cracow;* ²*Department of Clinical Immunology, Polish-American Institute of Pediatrics, Jagiellonian University Medical College, Cracow;* ³*Institute of Biotechnology and Antibiotics, Warsaw*)

P-II-29 Effects of bone marrow stromal cells on cellular response in the injured cerebral cortex.

Sz. Pasiut¹, M. Opydo-Chanek²
(¹*Department of Clinical Rehabilitation, Academy of Physical Education, Cracow;* ²*Department of Experimental Hematology, Jagiellonian University, Cracow*)

P-II-30 Effect of 3,5,3'-triiodothyronine and 3,5-diiiodothyronine administration on sex hormone concentrations in blood of the hen (*Gallus domesticus*).

K. Pawłowska, A. Sechman
(*Department of Animal Physiology, University of Agriculture in Cracow*)

P-II-31 Detection of ghrelin and its receptor in stallion semen

K. Pierzchała-Koziec¹, J. Zubeł¹, E. Oćłoń¹, J. Fedorczał¹,
K. Kosiniak-Kamysz²

*(¹Department of Animal Physiology, University of Agriculture;
²Department of Horse Breeding, University of Agriculture, Cracow)*

P-II-32 Comparison of heat and cold stress induced changes in cellular antioxidant defence system in men.

I. Pokora¹, B. Antkowiak², R. Zdanowski²

(¹Department of Physiology, Academy of Physical Education, Katowice, Poland;

²Department of Pharmacology and Toxicology, Military Institute of Hygiene and Epidemiology, Warsaw, Poland)

P-II-33 Effects of a new single nucleotide polymorphisms (SNPs) in *MRF4* and *PTPRQ* (protein tyrosine phosphatase, receptor type, Q) genes a on *MRF4* expression level in bovine *longissimus dorsi* muscle.

D. Robakowska –Hyżorek , L. Zwierzchowski

(Institute of Genetics and Animal Breeding, Polish Academy of Science (IGAB PAS), Jastrzębiec., Poland)

P-II-34 Immunological effects of dietary supplementation with plant oils.

A. Roman¹, M. Pieszka², B. Tombarkiewicz³

(¹ Department of Brain Biochemistry, Institute of Pharmacology, Polish Academy of Sciences, Cracow, Poland;

² Department of Feed Science, National Research Institute of Animal Production, Balice, Poland;

³ Laboratory of Animal Hygiene, Department of Poultry and Fur Animal Breeding and Animal Hygiene, Faculty of Animal Breeding and Biology, Agricultural University in Cracow, Poland)

P-II-35 Advantages of dichlorfos as a substitute for highly-toxic gases commonly used in the process of woodborers' destruction.

Róžański J.¹, Tyczyński M.

¹ Rochem Firm, Toruń

(Department of Animal Physiology, Institute of General and Molecular Biology, N. Copernicus University, Torun)

P-II-36 Expression of prepro-ghrelin and related receptor genes in the rat adrenal gland and evidences that ghrelin exerts a potent stimulating effect on corticosterone secretion by cultured rat adrenocortical cells.

M. Ruciński, A. Ziółkowska, M. Tyczewska, L. K. Malendowicz

(Department of Histology and Embryology, Poznan University of Medical Sciences, Poznan, Poland)

P-II-37 Zymographic analysis of plasma samples collected from melanoma-inoculated mice treated with antidepressants.

Rutkowska M.¹, Grygier B.², Kubera M.², Kołaczowska E.¹

(¹Department of Evolutionary Immunobiology, Institute of Zoology, Jagiellonian University, Cracow, Poland;

²Department of Experimental Neuroendocrinology, Institute of Pharmacology, Polish Academy of Sciences, Cracow, Poland)

P-II-38 Effects of Biorubin and Bioepicin on leukemic cells.

M. Stojak¹, M. Opydo-Chanek¹, J. Czapla¹, K. Świerz¹, J. Baran², P. Borowicz³, G. Zwierzyńska³, L. Mazur¹

(¹Department of Experimental Hematology, Institute of Zoology, Jagiellonian University, Cracow; ²Department of Clinical Immunology, Polish-American Institute of Pediatrics, Jagiellonian University Medical College, Cracow; ³Institute of Biotechnology and Antibiotics, Warsaw)

P-II-39 Dynamics of immunological status at action of dosed out physical loading.

S. Shmalyey, I. Redka

(Kherson State University, Kherson, Ukraine)

P-II-40 Effect of pinealectomy on lymphocyte subsets in rat acute pancreatitis.

J. Szklarczyk¹, J. Jaworek¹, K. Nawrot-Porąbka¹, M. Kot¹, K. Żwirska-Korczała², M. Szczepanik³, S. J. Konturek⁴, W. W. Pawlik⁴

(¹Department of Medical Physiology; ³Department of Human Developmental Biology Faculty of Health Sciences; ⁴Chair of Physiology Faculty of Medicine, School of Medicine Jagiellonian University Cracow; ²Department of Physiology Silesian Medical Academy, Zabrze, Poland)

P-II-41 Treatment with probiotics prevents acute gastric mucosal damage induced by damaging agents.

Z. Śliwowski, A. Ptak-Belowska, D. Drozdowicz, R. Pajdo, M. Pawlik, S. Kwiecień, T. Brzozowski, S. J. Konturek, W. W. Pawlik

(Department of Physiology Jagiellonian University Medical College, Cracow, Poland)

P-II-42 Altered profile of MMP-2 and MMP-9 synthesis by osteoblasts co-cultured with polymeric biomaterials.

Tłałka A.¹, Ścisłowska-Czarnecka A.², Pamuła E.³, Kołaczowska E.¹

(¹Jagiellonian University, Department of Evolutionary Immunobiology, Institute of Zoology, Cracow, Poland; ²Academy of Physical Education, Faculty of Anatomy, Cracow, Poland; ³AGH-University of Science and Technology, Faculty of Materials Science and Ceramics, Cracow, Poland)

P-II-43 Gelatinase B release by RAW 264.7 macrophages and L929 fibroblasts in response to biodegradable polymers.

Tłałka A.¹, Ścisłowska-Czarnecka A.², Pamuła E.³, Płytycz B.¹, Kołaczowska E.¹

(¹Jagiellonian University, Department of Evolutionary Immunobiology, Institute of Zoology, Cracow; ²Academy of Physical Education, Faculty of Anatomy, Cracow, Poland; ³AGH-University of Science and Technology, Faculty of Materials Science and Ceramics, Cracow, Poland)

P-II-44 Disparities in smell preferences in different sexes of *Periplaneta americana* modified by bifenthrin.

Tyczyński M., Rożański J.¹

(Department of Animal Physiology, Institute of General and Molecular Biology, N. Copernicus University, Torun;

¹Rochem Firm, Torun)

P-II-45 Effect of hypothalamic neuropeptides (CRH, AVP and OXY) on *in vitro* cortisol release by sheep adrenal gland.

D. Wrońska-Fortuna, A. Sechman, A. Hrabia, D. Zięba

(Department of Animal Physiology, Agricultural University, Cracow)

P-II-46 Role of interactions between TGF- β and WNT signaling pathways in regulation of phenotypic transition of human bronchial fibroblasts derived from healthy and asthmatic patients.

K. A. Wójcik¹, K. Szpak¹, J. Sroka¹, M. Pierzchalska², J. Czyż¹, Z. Madeja¹, M. Sanak³, M. Michalik¹

(¹ Department of Cell Biology, Faculty of Biochemistry, Biophysic and Biotechnology, Jagiellonian University, Cracow;

² Department of Food Biotechnology, Faculty of Food Technology, University of Agriculture in Cracow;

³Laboratory of Molecular Biology and Clinical Genetics, Division of Pulmonology, Faculty of Medicine, Jagiellonian University, Cracow)

P-II-47 Effects of catecholamines on leukocyte activity.

A. Zawada, E. Tertil, B. Plytycz, M. Chadzinska

(Department of Evolutionary Immunobiology, Institute of Zoology, Jagiellonian University, Cracow, Poland)

P-II-48 Adiponectin and its receptors system in the rat adrenal gland.

Zemelduch T., Paschke Ł.

(Students' Scientific Circle, Department of Histology and Embryology, Poznan University of Medical Sciences, Poznan, Poland)

P-II-49 Neuropeptide B (NPB) and neuropeptide w (NPW) system in cultured rat calvarial osteoblast-like (ROB) cells. NPW and NPB inhibit proliferative activity of ROB cells.

Ziółkowska A., Ruciński M., Szyszka M., Malendowicz L.
(*Department of Histology and Embryology, Poznan University of Medical Sciences, Poznan, Poland*)

P-II-50 Differential effects of glucocorticoids on the ghrelin concentration in peripheral tissues.

J. Zubel, K. Pierzchała-Koziec, E. Ocloń, J. Fedorczyk
(*Department of Animal Physiology, University of Agriculture, Cracow, Poland*)

P-II-51 Antinociceptive and anti-inflammatory properties of new methylxanthine derivatives.

M. Zygmunt¹, G. Chłoń-Rzepa², B. Filipek¹, J. Sapa¹, M. Bednarski¹

(¹*Laboratory of Pharmacological Screening, ²Department of Pharmaceutical Chemistry, Jagiellonian University, Medical College, Faculty of Pharmacy, Cracow, Poland*)

P-II-52 Physiological and anatomical aspect of blood circulation in the giraffe.

A. Zywert¹, H. Jakubowski², H. Frąckowiak²

(¹*Department of Animal Physiology and Biochemistry; ²Department of Animal Anatomy, University of Life Sciences in Poznan*)

PLENARY SESSION III

Session will be held at the Congress Center University of
Agriculture in Cracow, 29 Listopada Street no 46

Chairpersons: Stanisław Konturek
Tomasz Brzozowski
Wiesław Pawlik
Ryszard Sendur

A: LECTURES (8.00-11.00)

8.00-8.30 Stanisław Konturek¹, Peter Konturek², Tomasz Brzozowski¹: **New approach in understanding of gastric carcinogenesis induced by Helicobacter pylori infection.**

(¹Department of Physiology, Jagiellonian University College of Medicine, Cracow, Poland; ²First Department of Medicine, University Erlangen-Nuremberg Erlangen Germany)

8.30-9.00 Wiesław Pawlik, Jarosław Biernat, Ryszard Sendur, Michał Pawlik, Rafał Obuchowicz, Tomasz Brzozowski, Stanisław Konturek: **Involvement of renin-angiotensin system in the control of gastrointestinal blood flow, oxygen uptake and protection.**

(Chair of Physiology, Faculty of Medicine Jagiellonian University Medical College Cracow, Poland)

9.00-9.30 Tomasz Brzozowski, Robert Pajdo, Sławomir Kwiecień, Danuta Drozdowicz, Agata Ptak-Belowska, Michał Pawlik, Stanisław Konturek, Wiesław Pawlik: **Role of lipid mediators and nitric oxide (NO) in enhanced gastric mucosal tolerance developed by prolonged administration of nonsteroidal anti-inflammatory drugs (NSAIDs).**

(Department of Physiology, Jagiellonian University Medical College, Cracow)

9.30-10.00 Paweł Wołkow: **Regulation of chemotaxis of mature dendritic cells in response to CCL19 chemokine.**

(Department of Pharmacology Jagiellonian University Medical College, Cracow, Poland)

10.00-10.30 DISCUSSION

10.30-11.00 Tea/Coffee Break

POSTER SESSION III

Session will be held at the Congress Center University of
Agriculture in Cracow, 29 Listopada Street no 46

Chairpersons: **Lucyna Antkiewicz-Michaluk**
Janusz Rząsa
Tadeusz Librowski
Ryszard Przewłocki
Ryszard Sendur
Andrzej Laszczka
Michał Caputa
Irena Nalepa

B: POSTERS (11.00-13.00)

P-III-1 The involvement of $\alpha 3\beta 1$, $\alpha 5\beta 1$ and $\alpha V\beta 3$ integrins in human metastatic melanoma cell migration

M. Adamczyk, E. Pocheć, P. Link-Lenczowski, A. Lityńska
(Department of Glycoconjugate Biochemistry, Institute of Zoology, Jagiellonian University, Cracow)

P-III-2 Effect of dietary L-tryptophan intake on the course of gastric ulcer healing. Role of endogenous melatonin.

I. Brzozowska², D. Drozdowicz¹, S. Kwiecień¹, R. Pajdo¹,
A. Szlachcic¹, W. Bielański, S. J. Konturek¹, J. Walocha²,
T. Brzozowski¹, W.W. Pawlik¹
(¹Department of Physiology & ²Department of Anatomy Jagiellonian University Medical College, Cracow, Poland)

P-III-3 Role of endogenous tachykinins in methotrexate-induced liver injury.

J. Biernat, R. Sendur, R. Obuchowicz, T. Brzozowski,
W.W. Pawlik
(Department of Physiology, Jagiellonian University, Cracow, Poland)

P-III-4 The effect of physical exercise of different intensity on appetite, food intake and release of gastrointestinal peptides.

J. Bilski¹, T. Brzozowski², J. Pokorski¹, J. Nitecki¹, J. Pokorska¹, E. Nitecka¹, W.W. Pawlik².

(¹Department of Ergonomics and Exercise Physiology, Faculty of Health Sciences, Jagiellonian University School of Medicine, Cracow, Poland;

²Department of Physiology, Medical Faculty, Jagiellonian University School of Medicine, Cracow, Poland)

P-III-5 Chronotype, sleep length and coping with stressful situations in a sample of Polish schoolchildren.

J. Bilski, H. Ogińska, B. Kus

(Department of Ergonomics and Exercise Physiology, Faculty of Health Sciences, Jagiellonian University School of Medicine, Cracow, Poland)

P-III-6 Therapeutic effect of heparin in cerulein-induced acute pancreatitis in rats.

P. Ceranowicz, J. Cieszkowski, A. Dembiński, Z. Warzecha, M. Dembiński, R. Sendur

(Department of Physiology, Jagiellonian University Medical College, Cracow, Poland)

P-III-7 Influence of anandamide and sensory nerves on the development of stress-induced gastric ulcers.

P. Ceranowicz, A. Dembiński, Z. Warzecha, J. Cieszkowski, R. Sendur, W. W. Pawlik

(Department of Physiology, Jagiellonian University Medical College, Cracow, Poland)

P-III-8 Effect of ghrelin on the healing rate of gingival ulcers in salivary-intact and sialoadenectomized rats.

P. Ceranowicz, Z. Warzecha, A. Dembiński, P. Kownacki, J. Cieszkowski, R. Sendur

(Department of Physiology, Jagiellonian University Medical College, Cracow, Poland)

P-III-9 Influence of obestatin on the healing of chronic gastric ulcers in rats.

J. Cieszkowski, P. Ceranowicz, A. Dembiński,
Z. Warzecha, R. Sendur, A. Ptak-Belowska
*(Department of Physiology, Jagiellonian University
Medical College, Cracow, Poland)*

P-III-10 Frequency of metabolic syndrome incidence in a selected rural population.

M. Dec-Szlichtyng, M. Sagan, B. Borowicz, S. Dyba,
K. Lupa
*(Department of Human Physiology Medical University of
Lublin)*

P-III-11 Grapefruit seed extract containing naringin and hesperidin exhibits the antisecretory, gastroprotective and ulcer healing properties in the stomach.

D. Drozdowicz, S. Kwiecień, R. Pajdo, M. Pawlik, Z.
Śliwowski, A. Targosz, S. J. Konturek, T. Brzozowski,
W. W. Pawlik
*(Department of Physiology Jagiellonian University Medical
College, Cracow, Poland)*

P-III-12 Glycosylation of melanoma nucleolin.

W. Duda, D. Hoja-Łukowicz, A. Lityńska
*(Department of Glycoconjugate Biochemistry, Institute of
Zoology, Jagiellonian University, Cracow, Poland)*

P-III-13 Expression of FSH receptor (FSHR) in neonatal porcine ovary after *in utero* exposure to flutamide.

M. Durllej¹, K. Knapczyk-Stwora¹, M. Duda¹, M. Kozirowski²,
M. Słomczyńska¹
*(¹Department of Endocrinology & Tissue Culture Institute
of Zoology, Jagiellonian University, Cracow, Poland;
²Department of Physiology & Reproduction of Animals,
University of Rzeszow, Poland).*

P-III-14 Effect of sotalol on the depressor responses evoked by stimulation of vagus nerve in the rabbit.

S. Dyba, M. Teter, A. Nadulska, B. Cygan, M. Dec-Szlichtyng

(Department of Human Physiology Medical University of Lublin)

P-III-15 *Erigeron canadensis* lipid extract fractionation by means of MPLC.

M. Ellnain, Z. Janeczko

(Department of Pharmacognosy, Faculty of Pharmacy, Medical College, Jagiellonian University, Cracow, Poland)

P-III-16 Immunohistochemical localization of Cu-transporting ATPase (ATP7A) in the fibroblasts from mosaic mutants exhibiting alteration in copper metabolism.

M. Gawęska*, M. Straciło*, M. Ziola*, M. Lenartowicz¹, J. Karasiński

(Department of Cytology and Histology, ¹Department of Genetics and Evolution, Institute of Zoology, Jagiellonian University, Cracow, Poland)

P-III-17 Effect of melatonin and oleanolic acid administration on immune status of mice with experimental chronic colitis.

M. Gołąb, J. Wytrykowska, K. Skwarło-Sońta,

(Department of Animal Physiology, Faculty of Biology, University of Warsaw)

P-III-18 The influence of phenylpiperazine hydantoin derivatives on the isolated rat's aorta.

M. Jastrzębska - Więsek¹, J. Handzlik², B. Filipek¹, K. Kieć - Kononowicz², M. Dybała³, A. Siwek³

(¹Dept. of Pharmacodynamics; ²Dept. of Technology and Biotechnology of Drugs, ³Dept. of Cytobiology and Histochemistry, Medical College, Jagiellonian University, Cracow, Poland)

P-III-19 The effect of overexpression and silencing of mammalian homologue of *Tetrahymena thermophila* cytoskeletal leucine-rich protein.

K. Jedynek¹, E. Brzóska-Wójtowicz², E. Joachimiak¹
(¹*Department of Animal Physiology, University of Warsaw;*
²*Department of Cytology, University of Warsaw*)

P-III-20 The effect of aluminium chloride on triacylglycerides concentration in the liver and kidney mice.

Klusek J.¹, Świdorska-Kończak G.¹, Klusek J.¹, Kołataj A.²
(*The Jan Kochanowski University of Humanities and Sciences, Institute of Biology, Department of Animal Physiology, Kielce, Poland*)

P-III-21 Rhythm of androgen receptor expression in testis, extratesticular ducts and reproductive accessory organs of mice.

M. Kochlewski, M. Majewska, P. Bębas
(*Department of Animal Physiology, Faculty of Biology, University of Warsaw*).

P-III-22 Expression of connexin 43 in testes of neonatal and immature pigs following *in utero* exposure to an anti-androgen flutamide.

I. Kopera¹, A. Hejmej¹, M. Durlej¹, M. Koziorowski²,
B. Bilińska¹
(¹*Department of Endocrinology, Institute of Zoology, Jagiellonian University, Cracow;* ²*Department of Physiology and Reproduction of Animals, University of Rzeszow, Poland*)

P-III-23 Reduced glutathione as a beneficial marker of antioxidant defense system in patients with chronic venous disease.

Krzyściak W.¹, Kózka M.², Krośniak M.³, Stepniewski M.¹
(¹ Department of Radioligand, Faculty of Pharmacy, Jagiellonian University, Cracow, Poland;

² II Chair of General Surgery Jagiellonian University Medical College Cracow; Poland

³ Department of Food Chemistry and Nutrition, Faculty of Pharmacy, Jagiellonian University, Cracow, Poland)

P-III-24 Generation of reactive oxygen metabolites by the efficient, inefficient and varicose vein wall.

Krzyściak W.¹, Kózka M.², Papież M.³, Stepniewski M.¹
(¹ Department of Radioligand, Faculty of Pharmacy, Jagiellonian University, Medical College, Cracow, Poland;

² II Chair of General Surgery Jagiellonian University, Medical College, Cracow;

³ Department of Cytobiology, Faculty of Pharmacy, Jagiellonian University, Medical College, Cracow, Poland)

P-III-25 Influence of chosen derivatives of xanthone on superoxide dismutase activity in patients undergoing hemodialysis.

Krzyściak W.¹, Żaba A.², Marona H.³, Stepniewski M.¹
(¹ Department of Radioligand, Faculty of Pharmacy, Jagiellonian University Medical College, Cracow, Poland;

² Scientific Circle at Department of Radioligand, Faculty of Pharmacy, Jagiellonian University;

³ Department of Technology and Biotechnology of Drugs, Faculty of Pharmacy, Jagiellonian University, Cracow)

P-III-26 Serotonergic activity of compound MH-77, a new 1,4 substituted piperazine derivative.

Kubacka M.¹, Filipek B.¹, Marona H.², Dybała M.³
(¹ Department of Pharmacodynamics, ² Department of Technology and Biotechnology of Drugs, ³ Laboratory of Pharmacobiology, Jagiellonian University, Collegium Medicum, Cracow, Poland)

- P-III-27 The role of transcription factor NOBOX in formation of primordial follicles in mouse ovary. Ultrastructural analysis.**
A. Lechowska
(Department of Systematic Zoology, Institute of Zoology, Jagiellonian University, Cracow, Poland)
- P-III-28 Influence of phenylpiperazine derivatives of phenytoin on deoxyribose degradation.**
T. Librowski¹, A. Moniczewski²
(¹Dept. of Pharmacodynamics; ²Department of Toxicology, Cracow Medical College, Jagiellonian University, Cracow, Poland)
- P-III-29 The antioxidant properties of monoterpene derivatives in deoxyribose degradation test.**
T. Librowski¹, A. Moniczewski²
(¹Dept. of Pharmacodynamics; ²Department of Toxicology, Cracow Medical College, Jagiellonian University, Poland)
- P-III-30 Does the selective blockade of cyclooxygenase (COX)-2 affects Oesophageal inflammation in the rat model of Barrett's esophagus?**
J. Majka, A. Szlachcic, R. Pabiańczyk, A. Ptak-Belowska T. Brzozowski, W. Bielański, S. J. Konturek, W. W. Pawlik
(Department of Physiology Jagiellonian University Medical College, Cracow, Poland)
- P-III-31 Evaluation of analgesic and anti-inflammatory activity of new [3,4-d]pyridazine derivatives**
S. Mogilski, M. Kubacka, T. Librowski, B. Filipek
(Department of Pharmacodynamics, Jagiellonian University, Medical College, Cracow)
- P-III-32 Optimalization of reactions generating reactive oxygen species in linoleate model system**
A. Moniczewski,
(Department of Toxicology, Jagiellonian University, Medical College, Cracow, Poland)

P-III-33 Kinetics of the competitive degradation of deoxyribose by nicotine and xanthin derivatives

A. Moniczewski, A. Rutkowska

(Department of Toxicology, Jagiellonian University, Medical College, Cracow, Poland)

P-III-34 Is serotonin involved in the modulation of pancreatic enzyme secretion afforded by luminal melatonin or L-tryptophan?

K. Nawrot-Porąbka¹, J. Jaworek¹, J. Szklarczyk¹, A. Leja-Szpak, M. Kot¹, M. Mitis-Musioł², S.J. Konturek², W.W. Pawlik²

(¹Department of Medical Physiology, Faculty of Health Sciences, ²Chair of Physiology Medical Faculty, Jagiellonian University, School of Medicine, Cracow, Poland)

P-III-35 Expression of clock genes *Per1*, *Per2*, *Per3* in Leydig tumor cells.

A. Neumann, Ł. Szepiōła, P. Bębas

(Department of Animal Physiology, Faculty of Biology, University of Warsaw)

P-III-36 The effect of lead chloride on the glycosidase activity in the liver lysosomes.

E. Ochwanowska¹, B. Witek¹, G. Świdarska-Kołacz¹, A. Kołataj²

(¹The Jan Kochanowski University of Humanities and Sciences, Institute of Biology, Department of Animal Physiology, Kielce, Poland; ²Polish Academy of Sciences, Institute of Genetics and Animal Breeding, Poland)

P-III-37 Localization of mammalian homologue of *Tetrahymena thermophila* cytoskeletal leucine-rich protein in different mouse tissues.

D. Otto, E. Joachimiak,

(Department of Animal Physiology, University of Warsaw)

P-III-38 Appetite hormones ghrelin and leptin attenuate esophageal damage in rat model of reflux esophagitis.

M. Pawlik, M. Mazurkiewicz-Janik, S. Kwiecień, R. Pajdo, D. Drozdowicz, U. Szczyrk, S. J. Konturek, T. Brzozowski, W. W. Pawlik

(Department of Physiology Jagiellonian University Medical College, Cracow, Poland)

P-III-39 Effects of AMPA receptor modulators in four-plates test in mice.

A. Partyka¹, M. Jastrzębska-Więsek¹, B. Filipek¹, A. Pilc^{2,3}, G. Nowak^{3,4}

(¹Department of Pharmacodynamics, Collegium Medicum, Jagiellonian University, Cracow; ²Department of Drug Management, Collegium Medicum, Jagiellonian University, Cracow; ³Institute of Pharmacology, Polish Academy of Sciences, Cracow; ⁴Department of Pharmacobiology, Collegium Medicum, Jagiellonian University, Cracow)

P-III-40 Evaluation of antidepressant NA/5-HT profile of Cr III in the forced swim test in rats.

A. Piotrowska¹, K. Młyniec¹, A. Siwek¹, M. Dybała¹, G. Nowak^{1,2}

(¹Chair of Pharmacobiology, Collegium Medicum, Jagiellonian University, Cracow, Poland; ²Department of Neurobiology, Institute of Pharmacology, Polish Academy of Sciences, Cracow, Poland)

P-III-41 Organoleptic properties of chosen cosmetics, containing natural materials from a sweet clover herb and rosemary

Joanna Płocica

(Department of Prophylactic and Treatment Cosmetics, Faculty of Cosmetology, Jozef Dietl Malopolska Higher Vocational School in Cracow; Poland)

P-III-42 Age- and season-related changes in the diurnal profile of *Lcg* gene expression in the chicken (*Gallus domesticus* L.) pineal gland.

E. Podobas, A. Piesiewicz, E. Joachimiak, P. Majewski.
(*Department of Animal Physiology, Faculty of Biology, University of Warsaw, Poland*)

P-III-43 Glycosylation pattern of membrane proteins in WM-1205 Lu and WM 793 human melanoma cell lines.

Pokrywka M., Kremser M., Lityńska A.
(*Department of Glycoconjugate Biochemistry, Institute of Zoology, Jagiellonian University, Cracow, Poland*)

P-III-44 New xanthone derivatives with hypotensive activity.

Rapacz A., Filipek B. Marona H.¹, Szkaradek N.¹
(*Department of Pharmacodynamics; ¹Department of Technology and Biotechnology of Drugs; Jagiellonian University, Medical College Cracow*)

P-III-45 Effects of endurance training and testosterone treatment on antioxidant defense system and heat shock protein HSP70(72) in rat soleus muscle.

E. Sadowska-Krepa¹, S. Jagsz¹, B. Kłapcińska¹, A. Sobczak²
(*¹Department of Physiology and Medical Sciences, Academy of Physical Education, Katowice; ²Department of General and Inorganic Chemistry, The Medical University of Silesia, School of Pharmacy, Sosnowiec*)

P-III-46 Restriction of selected village population- evaluation on the basis of spirometric parameters.

M. Sagan, M. Dec-Szlichtyng, J. Warchulińska, M. Jakubiak, K. Lupa.
(*Department of Human Physiology Medical University of Lublin*)

P-III-47 Antinociceptive activity of phenylpiperazine gamma-butyrolactone derivatives in capsaicin model of neurogenic pain in mice.

K. Sałat, B. Filipek

(Dept. of Pharmacodynamics, Jagiellonian University, Medical College, Cracow)

P-III-48 Annexin-1 exerts a protective action in indomethacin-induced injury of the jejunal mucosa.

R. Sendur, J. Biernat, R. Obuchowicz, T. Brzozowski, W.W. Pawlik

(Department of Physiology, Jagiellonian University, Cracow, Poland)

P-III-49 Aggregability of young and old erythrocytes in CVI patients with varicosis.

K. Słoczyńska¹, M. Kózka², A. Marchewka³, H. Marona¹

(¹Department of Technology and Biotechnology of Drugs, Faculty of Pharmacy, Jagiellonian University Medical College, Cracow, Poland;

²2-nd Chair of General Surgery Jagiellonian University Medical College, Cracow, Poland;

³ Department of Clinical Rehabilitation, University School of Physical Education, Cracow, Poland)

P-III-50 The qualitative and quantitative analysis of integrin alpha₃beta₁ glycosylation in melanoma cells at different stages of progression.

M. Sokołowicz, P. Link-Lenczowski, A. Lityńska

(Department of Glycoconjugate Biochemistry, Institute of Zoology, Jagiellonian University, Cracow, Poland)

P-III-51 Effects of single and repeated restraint stress on long-term potentiation (LTP) in the dentate gyrus of mice. Involvement of mineralocorticoid receptors.

Spyrka J.^{1,2}, Hess G.^{1,2}

(¹ Institute of Zoology, Jagiellonian University, Cracow, Poland; ² Institute of Pharmacology PAS, Cracow, Poland)

P-III-52 Importance of food intake hormones ghrelin and leptin in the mechanism of gastric mucosal integrity.

A. Szlachcic, S. Kwiecień, R. Pajdo, D. Drozdowicz, W. Bielański, A. Targosz, S. J. Konturek, T. Brzozowski, W.W. Pawlik

(Department of Physiology Jagiellonian University Medical College, Cracow, Poland)

PLENARY SESSION IV

Session will be held at the Congress Center University of
Agriculture in Cracow, 29 Listopada Street no 46

Chairpersons: Henryk Marona
Marek Stępniewski
Alina Chelmińska
Maciej Pawłowski
Jacek Międzobrodzki

A: LECTURES (13.00-16.00)

- 13.00-13.20** Jacek Międzobrodzki ^{1,2}, Pawel Kaszycki ³
Molecular and physiological aspects of regulatory processes in *Staphylococcus aureus*.
(¹ Chair and Department of Biomedical Sciences, Jozef Dietl Malopolska Higher Vocational School in Cracow; ² Department of Microbiology, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Cracow; ³ Department of Biochemistry, University of Agriculture in Cracow)
- 13.20-13.40** Henryk Marona, Karolina Słoczyńska
Nonenzymatic antioxidants suitable for dermatological applications
(Department of Prophylactic and Treatment Cosmetics, Faculty of Cosmetology; Jozef Dietl Malopolska Higher Vocational School, Cracow)

13.40-14.00 Henryk Marona^{1,2}, Agnieszka Gunia¹

Retinoids as both natural and synthetic compounds affecting physiology of cells - the aspects of their medical and cosmetic use

(¹Department of Technology and Biotechnology of Drugs, Faculty of Pharmacy; Jagiellonian University Medical College, Cracow, Poland; ²Department of Prophylactic and Treatment Cosmetics, Faculty of Cosmetology; Jozef Dietl Malopolska Higher Vocational School, Cracow, Poland)

14.00-14.20 DISCUSSION

14.20-14.40 Conclusions

14.40-16.00 Catering