



8th Bulgarian Peptide Symposium is organized by the
Medical Faculty of the Trakia University, Stara Zagora;
National Science Fund of Bulgaria and Bulgarian Peptide Society



8TH BULGARIAN PEPTIDE SYMPOSIUM **with international participation**

PROGRAMME

Stara Zagora Mineral Baths
June 08 – June 10, 2018



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ORGANIZING COMMITTEE OF THE SYMPOSIUM

CHAIR: Prof. Maya Gulubova

MEMBERS: Prof. Anna Tolekova
Assoc. Prof. Dimitrinka Atanasova
Assoc. Prof. Dancho Danalev
Prof. Valeri Nikolov
Assoc. Prof. Miroslav Karabaliev

SCIENTIFIC COMMITTEE OF THE SYMPOSIUM

MEMBERS: Prof. Veselina Gadjeva
Prof. Emilia Naydenova
Prof. Radoslav Girchev
Prof. Reni Kalfin
Prof. Ivanka Stoineva
Prof. Spaska Stanilova
Assoc. Prof. Tamara Pajpanova
Assoc. Prof. Ivanka Stankova



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Friday, June 08, 2018

Armira Hotel Conference Hall

Registration 11:00 – 16:00

Opening Ceremony 16:00

Chairperson

Prof. Dr. Reni Kalfin

*Member of the Bulgarian Peptide Society
Director of the Institute of Neurobiology, BAS*

Welcome Address

Prof. Dr. Emilia Naydenova

Chairperson of the Bulgarian Peptide Society

Prof. Dr. Veselina Gadjeva

*Vice Rector of Research and International Relations of Trakia
University, Stara Zagora*

Prof. Dr. Maya Gulubova

*Dean of the Faculty of Medicine, Trakia University,
Stara Zagora*

Plenary Lectures

- 16:30 – 17:15 L1. **Prof. Dr. I. Gozes (Israel):** Peptides protecting the brain: From VIP/PACAP to ADNP and CP201
- 17:15 – 18:00 L2. **Prof. Dr. J. Martinez (France):** Constrained non-peptide building blocks for the synthesis of protein structure mimics
- 18:00 – 18:45 L3. **Prof. Dr. V. Todorov (Germany):** Moderate ACE inhibition with the dipeptide IW or captopril during pregnancy pre-programs ace-activity in progeny
- 19:00 – 21:00 **Welcome Reception and Get-Together**



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Saturday, June 09, 2018

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Chairpersons: *Prof. Dr. V. Gadjeva*
Assoc. Prof. Dr. T. Pajpanova

- 08:30 – 09:15 L4. **Dr. Ch. del Genio (United Kingdom):** Molecular recognition in deep binding sites
- 09:15 – 10:00 L5. **Dr. V. Uzunova (United Kingdom):** Biophysical interactions between Clathrin and adaptor proteins investigated via surface plasmon resonance
- 10:00 – 10:40 L6. **L. Tancheva, T. Pajpanova, A. Popatanasov, M. Lazarova, R. Kalfin (Bulgaria):** New approach in experimental treatment of neurodegenerative diseases with Neurotensin analogues
- 10:40 – 11:00 L7. **T. Dzimbova, D. Veselinova, E. Naydenova (Bulgaria):** Computer modelling of all types of somatostatin receptors
- 11:00 – 11:20 **COFFEE BREAK**

Chairpersons: *Prof. Dr. E. Naydenova*
Assoc. Prof. Dr. J. Ananiev

- 11:20 – 12:00 L8. **Prof. Dr. J. Martinez (France):** Angiotensin Converting enzyme is the Target of the Nonapeptide Acein that Induces Peptidase-Independent Dopamine Release
- 12:00 – 12:20 L9. **S. Stanilova, B. Grigorov, M. Platikanova, Z. Dobрева (Bulgaria):** Effect of the small selective inhibitor of JNK on the inducible MRNA expression of the IL-6 and IL-18 cytokines



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12:20 – 12:40 L10. **J. Gerenova, I. Manolova, S. Stanilova (Bulgaria):** Serum levels of Interleukin - 23 and Interleukin - 17 in Hashimoto's thyroiditis

12:40 – 13:00 L11. **G. Prakova, P. Gidikova, G. Sandeva, K. Haracherova, T. Tacheva, T. Vlaykova (Bulgaria):** Effects of occupational inorganic dust exposure on plasma Glutathione

13:00 – 14:00 **LUNCH**

Chairpersons: *Prof. Dr. S. Stanilova*
Assoc. Prof. Dr. D. Danalev

14:00 – 14:45 L13. **Prof. Dr. S. A. Vardar (Turkey):** Natriuretic peptides and exercise

14:45 – 15:30 L14. **L. Öztürk (Turkey):** Sleep-related peptides

15:30 – 16:15 L21. **A. Tzakos (Greese):** Tailoring prodrugs: from drug delivery to smart molecular devises

16:15 – 16:30 **COFFEE BREAK**

Chairpersons: *Prof. DSc. I. Stoineva*
Prof. Dr. T. Vlaykova

16:30 – 16:50 L15. **M. Gulubova, K. Ivanova, I. Vulkova, K. Dinkova, M.M. Ignatova, S. Radev, A. Tolekova (Bulgaria):** Induction of pancreatic islet cells in the peribiliary glands of rat common hepatic duct

16:50 – 17:10 L16. **K. Ivanova, M. Gulubova, M. Hadzhi, S Hamza, D. Chonov, J. Ananiev, A. Tolekova (Bulgaria):** Ghrelin-positive endocrine cells and mast cells in rat stomach in high-fructose diet and streptozotocin application



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- 17:10 – 17:30 L17. **P. Hadzhibozheva, Ts. Georgiev, N. Genov, L. Pashova, J. Tsokeva, Kr. Nancheva, R. Sandeva, G. Ilieva, A. Tolekova, M. Ganeva (Bulgaria):** Metabolic disturbances in fructose fed rats and their impact on angiotensin II stimulated contractility of the smooth muscle
- 17:30 – 17:50 L12. **R.V. Sandeva, V. Tsoneva, G. N. Sandeva, A. A. Dimitrova (Bulgaria):** Plasma NPY and metabolic status of rats after sweetener consumption and antioxidant treatment
- 17:50 – 18:10 L18. **R. Todorova, R. Radev, A. Todorov (Bulgaria):** Physiological blood parameters and prognostic markers changed after treatment of humans with *Haberlea rhodopensis*
- 18:10 – 18:30 L19. **A. Atanasov, S. Radev, R. Todorova (Bulgaria):** Some bulgarian plants – potential inhibitors of platelet aggregation
- 18:30 – 18:50 L20. **S. Radev, M. Gulubova, A. Atanasov (Bulgaria):** Skin permeability coefficient calculation in the case of sodium diclofenac administration by pulsed current iontophoresis
- 19:30 **GALA DINNER**



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Chairpersons: *Prof. Dr. R. Girchev*
 Assoc. Prof. Dr. I. Stankova

09:30 – 11:00 **POSTER SESSION**

AMINO ACID AND PEPTIDE MIMETICS SYNTHESIS

- P 1 **L. Vezenkov, N. Vassilev, D. Tsekova, I. Kostadinova, A. Bakalova, N. Danchev:** Synthesis of new galanthamine derivatives comprising peptide fragments and nicotinic or isonicotinic acid design for prevention and treatment of Alzheimer's disease
- P 2 **N. Angelova, E. Naydenova, L. Vezenkov:** Galantamine derivatives containing selective n_op-receptor agonist with expected effect on neurodegenerative diseases
- P 3 **M. Chochkova, B. Stoykova, L. Nikolaeva-Glomb, S. Philipov, T. Milkova:** Synthesis of 3-aminomethylglucine derivatives and *in vitro* evaluation of anti-tyrosinase, antiviral and radical scavenging activities
- P 4 **M. Chochkova, B. Stoykova, N. Lazarov, L. Tancheva, Y. Mitrev, M. Lazarova, R. Kalfin, M. Štícha:** Synthesis and pharmacological activity of novel *n*-hydroxycinnamoyl amides with potential neuroprotective effects
- P5 **P. Petrova, M. Chochkova, I. Karadjova, I. Dakova, M. Karadjov:** Application of schiff bases functionalized silica for separation and concentration of pt from environmental samples
- P6 **V. Mihaylova, A. Vasileva, I. Iliev, N. Mateeva, D. Tasheva, I. Ivanov:** Synthesis and investigation of anti-cancer activity of 3,5-diaryl prolinenitriles
- P7 **S. Georgieva, P. Todorov, P. Peneva, E. Dzhambazova:** Investigation of electrochemical behavior of new hemorphin-5 analogues



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- P8 **V. Karadjova, S. Georgieva, P. Todorov:** Synthesis and characterization of new mixed Cu(II) - Se(VI) - tryptophan complexes
- P9 **A. Balacheva, M. Lambev, R. Detcheva, T. Bruckdorfer, T. Pajpanova:** In vitro assessment of the cytotoxic effects of novel rgd analogues and conjugates
- P10 **A. Tencheva, A. Rizakov, P. Rizakov, R. Chayrov, I. Stankova:** Chemical stability of amino acids analogues of memantine
- P11 **M. Georgieva, A. Balacheva, R. Detcheva, T. Pajpanova:** Evaluation of anti-proliferative activity of two avpi-rgd hybrids over mda-mb-231 breast cancer cells and their combination with cisplatin
- P12 **M. Georgieva, A. Balacheva, R. Detcheva, I. Iliev, N. Galić, T. Pajpanova:** Looking for possible enhanced cytotoxic effects of some aroylhydrazones combined with avpi and rgd analogues
- P13 **E. Naydenova, D. Borisova, S. Yaneva, V. Ivanova, D. Danalev:** Design and synthesis of new analogues of bim containing halogenated amino acids

ANALYTICAL METHODS IN PEPTIDE CHEMISTRY

- P14 **R. Raykova, E. Carvalho, T. Pajpanova, D. Marinkova, V. Ivanova, A. Bocheva, D. Danalev:** Inhibition potential of some serine analogues against lipoxygenase
- P15 **J. Gerenova, G. Nikolova, Y. Karamalakova, V. Gadjeva:** Real time oxidative stress biomarkers measured in patients with Hashimoto's thyroiditis – an electron paramagnetic resonance study
- P16 **B. Tacheva, B. Paarvanova, I.T. Ivanov, M. Karabaliev:** Investigation of drugs exchange between protein nanoparticles and erythrocyte membranes



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- P17 **D. Zhekov, P. Sugareva, Y. Hristov, V. Lozanov:** Synthesis and characterization of fluorescence peptide probes for Gastrin Releasing Peptide Receptor (GRPR) overexpressing tissues visualization
- P18 **P. Sugareva, V. Lozanova, Y. Hristov, V. Lozanov:** Fast and highly sensitive lc-ms/ms quantitative method for amino acids analysis in food and beverages

STRUCTURE AND CONFORMATION ANALYSIS OF PEPTIDES AND PROTEINS

- P19 **S. Krumova, N. Petrova, S. Todinova, Sv. Stoichev, S. Taneva:** Structural stability of the major light harvesting complex of photosystem II in different functional states of higher plants thylakoid membrane
- P20 **M. Guncheva, Y. Raynova, Kr. Idakieva, Sv. Todinova, D. Yancheva:** Conformational and thermal stability of a conjugated with vitamin B9 hemocyanin from *Rapana thomasiana*
- P21 **S. Todinova, S. Krumova, L. Gartcheva, K. Dimitrova, V. Petkova, S. Taneva:** Calorimetric features of blood sera from IgA multiple myeloma patients
- P22 **Sv. Stoichev, N. Chenkina, S. Todinova, S. Krumova, T. Andreeva, S. Taneva:** Graphene oxide induced thermal stabilization of human serum albumin
- P23 **Y. Raynova, I. Angelov, S. Todinova, Kr. Idakieva:** Fluorescence properties and conformational stability of hemocyanin isolated from snails *Helix aspersa maxima*
- P24 **F. Sapundzhi, T. Dzimbova:** Computer modelling of the cannabinoid receptor type 2
- P25 **F. Sapundzhi, T. Dzimbova:** Modelling of the structure-activity relationships between cannabinoid receptors and cannabinoid ligands



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- P26 **F. Sapundzhi, T. Dzimbova, M. Popstoilov, V. Slavov:** RMSD calculations and computer modelling of protein structures
- P27 **T. Dzimbova, S. Vezekov:** Homology modeling of proctolin receptor and docking studies with proctolin analogues
- P28 **R. Topalska, I. Angelova:** Computer modelling approaches for molecular structures
- P29 **H. Sbirikova-Dimitrova, R. Rusev, V. Dyulgerov, B. Shivachev:** The role of calcium ions in the structure and function of Vipoxin
- P30 **Zh. Velkov, D. Tsekova, V. Karadjova, L. Vezekov:** Molecular modeling of galanthamine derivative comprising peptide moiety: methods, targets and accuracy of results

NEUROPEPTIDES, PEPTIDE HORMONES AND IMMUNOLOGICAL PEPTIDES

- P31 **Y. Karamalakova, G. Nikolova, Tz. Georgiev, A. Piperova, E. Georgieva, P. Hadjibojeva, A. Tolekova, V. Gadjeva:** Turmerin, the antioxidant polypeptide in curcuma longa composition, provides oxidative-modulating activity at Bleomycin-induced pulmonary fibrosis
- P32 **Y. Karamalakova, A. Zheleva, G. Nikolova, A. Tolekova, V. Gadjeva:** N-[N'-(2-Chloroethyl)-N'-nitrosocarbamoyl-glycine amide of 2,2,6,6-tetramethyl-4-aminopiperidine-1-oxyl (SLCNUgly) provide oxidative protection in pancreas, alone and in combination
- P33 **H. Abrashev, Y. Karamalakova, T. Kavnikov, G. Nikolova, V. Gadjeva:** Role of glutathione and glutathione peroxidase in chronic venous insufficiency patients with/ without type 2 diabetes mellitus
- P34 **I. Koleva, Y. Karamalakova, G. Nikolova, V. Gadjeva:** Glutathione and glutathione peroxidase levels influence in intracellular redox defense in normotensive pregnant women



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- P35 **G. Nikolova, M. Hristova, Y. Karamalakova, M. Penev, V. Gadjeva:** The influence of synthetically made lisinopril peptide derivate for oxydative changes induced by hypertension
- P36 **P. Peneva, P. Todorov, D. Pechlivanova, S. Georgieva, R. Hadjiolova, E. Dzhabazova:** Synthesis, characterization and nociceptive activity of new Hemorphin-5 analogues
- P37 **P. Peneva, P. Todorov, Tz. Stoyanova, J. Tchekalarova:** Synthesis and neuropharmacological studies of novel VV-hemorphin-5 analogues
- P38 **P. Todorov, P. Peneva, S. Georgieva, A. Georgiev:** Synthesis and characterization of novel analogues of Valorphin bearing a photochromic unit
- P39 **S. Mihailova, M. Georgieva, T. Dzimbova, T. Bruckdorfer, T. Pajpanova:** Influence of arginine mimetics on the biological effects of NT (8-13) analogues
- P40 **T. Dzimbova, F. Sapundzhi, N. Pencheva, P. Milanov:** A computational study of cannabinoid receptors and cannabinoid ligands
- P41 **A. Chapkanov, T. Ignatova, R. Georgiev, T. Dzimbova:** Synthesis and characterization of small peptide analogues with a potential inhibitor activities
- P42 **T. Manolova, L. Manchev, V. Mancheva-Ganeva, I. Manchev:** Neurological complications in generalized oncological diseases requiring emergency treatment
- P43 **M. Stancheva, S Petlichka, L. Tancheva, M. Lazarova, T. Pajpanova, R. Kalfin:** Effects of new Neurotensin analogues on experimental dementia in rodents
- P44 **S. Georgieva, G. Radulova, S. Petlichka, M. Stancheva, L. Tancheva, M. Lazarova, R. Kalfin:** On the mechanisms of preventive action of melatonin on some neurodegenerative diseases



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- P45 **A. Popatanasov, T. Pajpanova, L. Tancheva:** Some beneficial effects of new Neurotensin analogues on the affective behavior in Parkinson's disease model
- P46 **L. Tancheva, M. Lazarova, I. Stankova, R. Chayrov, A. Alexandrova, A. Popatanasov, R. Kalfin:** Synthesis and neuropharmacological studies on new amino acids analogues of Amantadine
- P47 **R. Tashev, M. Ivanova, S. Belcheva, I. Belcheva:** Modulation of anxiety-like behavior after Angiotensin II and Losartan bilateral infusion into hippocampal CA1 area on rats with a model of depression
- P48 **S. Zafer, M. Tzvetkova, H. Nocheva, R. Tashev:** Role of Angiotensin II and Losartan infused into amygdala on learning and memory in rats with a model of depression
- P49 **M. Hristova, M. Penev, L. Miteva:** Comparative study of the effect on the serum level of ACE and ACE2 of a synthetically produced peptide derivative - lisinopril and a non-peptide triazole derivative valsartan
- P50 **I. Ivanova, M. Gulubova, D. Atanasova, I. Stefanov, N. Dimitrov, D. Sivrev:** Ghrelin in human fetal lung
- P51 **D. Atanasova, N. Dimitrov, N. Tomov, I. Ivanova, D. Sivrev, N. Lazarov:** Ghrelin expression in rat colon
- P52 **V. Nikolov, E. Nikolov:** Effect of Genistein on the erythropoietin activity in hypoxic rats
- P53 **K. Yankov:** Phase analysis of plasma-renin activity after nifedipine treatment
- P54 **J. Zarkos, D. Addai:** Low protein diets for pregnant women and its association with insulin secretion and resistance



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- P55 **V. Georgieva, D. Kochev, A. Bocheva, G. Ilieva, A. Tolekova, A. Zheleva, V. Gadjeva:** Effects of some neuropeptides with opioid-like activity on oxidative status parameters of rats, subjected on immobilization and temperature stress
- P56 **Ts. Georgiev, P. Hadzhibozheva, Y. Karamalakova, G. Nikolova, G. Krastev, I. Nedevska, R. Stojanov, A. Tolekova, V. Gadjeva:** Effect of oxidative stress on Angiotensin II-induced smooth muscle contractile activity of urinary bladder in fructose fed rats
- P57 **T. Tacheva, Y. Zhelyazkova, D. Dimov, M. Zafar, T. Vlaykova:** Possible role of serum leptin as biomarker in COPD
- P58 **I. Dimitrova, T. Tacheva, B. Petrov, I. Mindov, E. Aleksandrova, St. Valkanov, M. Gulubova, T. Vlaykova:** Serum levels of MMP-7 in primary brain cancers and brain metastases
- P59 **P. Hrishev, K. Georgieva, D. Terzieva, D. Popov, I. Stoyanova:** Effect of submaximal training on Ghrelin in female and male rats with dietary-induced metabolic syndrome
- P60 **B. Paarvanova, B. Tacheva, T. Slavov, M. Karabaliev, I. Ivanov:** Effect of microtubule depolymerization on the dielectric relaxations of spectrin-based under-membrane network of hen red blood cells

ANTIMICROBIAL PEPTIDES, GLYCOPEPTIDES AND LIPOPEPTIDES

- P61 **I. Stankova, K. Chuchkov, D. Marinkova, R. Raykova, D. Danalev:** Design, synthesis and antibacterial activity of adamantane derivatives containing thiazol moiety
- P62 **A. Tencheva, R. Chayrov, I. Stankova, D. Marinkova, R. Raykova, D. Danalev:** Synthesis and antimicrobial activity of some amino acids esters containing adamantane



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- P63 **A. Hristova, S. Mihailova, T. Pajpanova:** Synthesis and biological evaluation of short bactericidin 2a analogues
- P64 **P. Kardaleva, B. Yakimova, I. Lazarkevich, V. Kussovski, I. Stoineva:** Isolation and antimicrobial potential of biologically active compounds derived from Bulgarian brown frog *Rana temporaria*
- P65 **M. Aliosman, I. Eneva, V. Kussovski, M. Durmuş, I. Angelov, V. Mantareva:** Tetra- and octa lysine conjugated Zinc (II) phthalocyanine for antimicrobial photodynamic therapy
- P66 **A. Georgieva, J. Stoyanov, N. Dimitrov, D. Sivrev:** Comparison of the properties of polyethylene glycol and Biodur S10 used for tissue protection in morphology
- P67 **J. Stoyanov, A. Georgieva, N. Dimitrov, D. Sivrev:** Forced impregnation with Biodur S10 and molecular substitution with polyethylene glycol 400 – application in practice

11:00 – 12:00 **YOUNG INVESTIGATOR AWARD AND CLOSING CEREMONY**