



VLADIMIR KH. KHAVINSON

Director of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences, Vice President of the Gerontological Society of the Russian Academy of Medical Sciences, Associate Member of the Russian Federation, Winner of the USSR Council of Ministers Award and K.M. Bykov Award of the USSR Academy of Sciences, professor, Doctor of Medical Sciences.

Graduated from the S.M. Kirov Military Medical Academy. Colonel of the Military Medical Service in reserve.

His main interests in the field of science are related to the development of the concept of peptide regulation of ageing, as well as to the design, experimental and clinical study of peptide bioregulators - geroprotectors, and to the elaboration of theoretical and practical grounds of bioregulation therapy and gerontology. He has over 600 research publications, including 25 monographs. He is the author of 125 Russian and International patents.



VYACHESLAV G. MOROZOV

Research Director of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences, Winner of the USSR Council of Ministers Award, professor, Doctor of Medical Sciences.

Graduated from the S.M. Kirov Military Medical Academy. Colonel of the Military Medical Service in reserve.

His main interests in the field of science are related to the study of peptide regulation of the homeostasis, design of new medicinal substances based on bioregulators, development of pathophysiological principles of peptide pharmacotherapy.

He has over 400 research publications, including 10 monographs. He is the author of 78 Russian and International patents.



LENAR V. KOZLOV

Director for Development of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences, Distinguished Doctor of the Russian Federation.

Graduated from the S.M. Kirov Military Medical Academy. Colonel of the Military Medical Service in reserve.

His main interests in the field of science are related to the clinical study of peptide bioregulators - geroprotectors, as well as to the training of specialists in the field of social and clinical gerontology.

L.V. Kozlov is a well-known organizer of the system of military and civilian health service. He is the organizer and the First Chairman of the St. Petersburg Obligatory Medical Insurance Foundation.

He has over 100 research publications.





BACKGROUND AND ACTIVITIES OF THE INSTITUTE

St. Petersburg Institute of Bioregulation and Gerontology was established in 1992 and has been engaged in research in bioregulation and gerontology. Its basic task is to introduce into the medical practice the results of 20-year experimental and clinical studies of a new class of medicinal substances - peptide bioregulators, which were created in the Research Laboratory of Bioregulators of the S.M. Kirov Military Medical Academy.

In 2001 the Institute was integrated into the North-Western Branch of the Russian Academy of Medical Sciences.

Research activities of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences are related to:

- fundamental studies, improvement of methods for diagnosis and prognosis of various diseases,

development of research and production programmes in bioregulation and gerontology;

- design, clinical study, manufacture and introduction into the clinical practice of medications, state-of-the-art technologies of diagnostics and therapy for the purpose of early diagnostics, prevention and treatment of age-related pathologies;

- propagation of research findings in the field of bioregulation and gerontology (by organizing scientific conferences, publishing research papers etc.)

Presently St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences is the only research institution in the North-Western region of Russia, which is engaged in research on ageing, and at the same time is an active clinical diagnostic center in gerontology and geriatrics.

ORGANIZATIONAL STRUCTURE OF THE INSTITUTE

Staff of the Institute constitutes 150 persons, with 80 researchers among them. The research team of the Institute consists of highly qualified specialists, including 1 Associate Member of the Russian Academy of Medical Sciences, 27 professors and doctors of sciences, 27 candidates of sciences, 9 doctors bearing higher category.

Organizational structure of the Institute comprises:

- Top management
 - Department of International Research
 - Patent Department
- Research departments
- Medical center
- Administrative departments

RESEARCH DEPARTMENTS

The Institute comprises 15 laboratories, which are united in three major departments: the Department of Biogerontology, the Department of Cell Biology and Pathology, and the Department of Clinical Gerontology and Geriatrics. All laboratories are equipped with modern research facilities, providing for high-quality experimental and clinical studies in genetics, chemistry, biochemistry, immunology, physiology, molecular and cell biology, morphology.

Research efforts of the Institute team are concentrated on the following priority directions: studying the mechanisms of ageing; studying the properties and mechanisms of peptide bioregulators effects; design and introduction into clinical practice of new medicinal substances based on peptide bioregulators; studying the markers for in vivo diagnostics of age-related diseases; exploration of demographic aspects of population ageing.

GALINA A. RYZHAK

Research and Development Director of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences, professor, Doctor of Medical Sciences.



KIRILL L. KOZLOV

Deputy Director on Educational and Methodological Work of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences, professor, Doctor of Medical Sciences



OLGA N. MIKHAILOVA

Executive Director of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences, Head of the International Research Department, Ph. D.

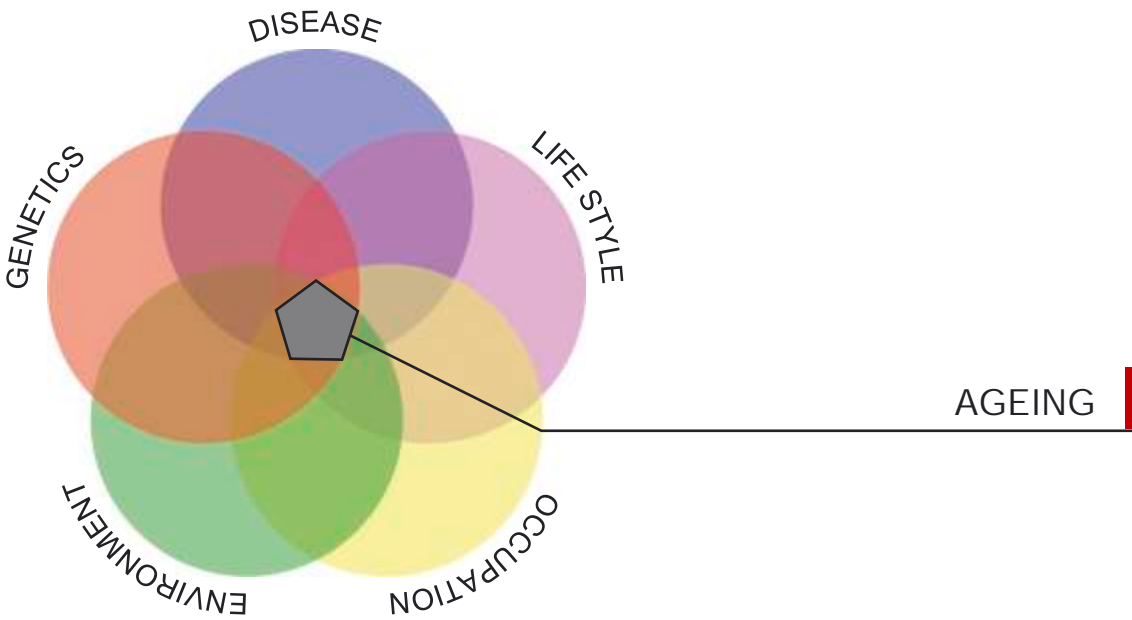


TATIANA V. KVETNAYA

Academic Secretary of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences, Doctor of Sciences in Biology.

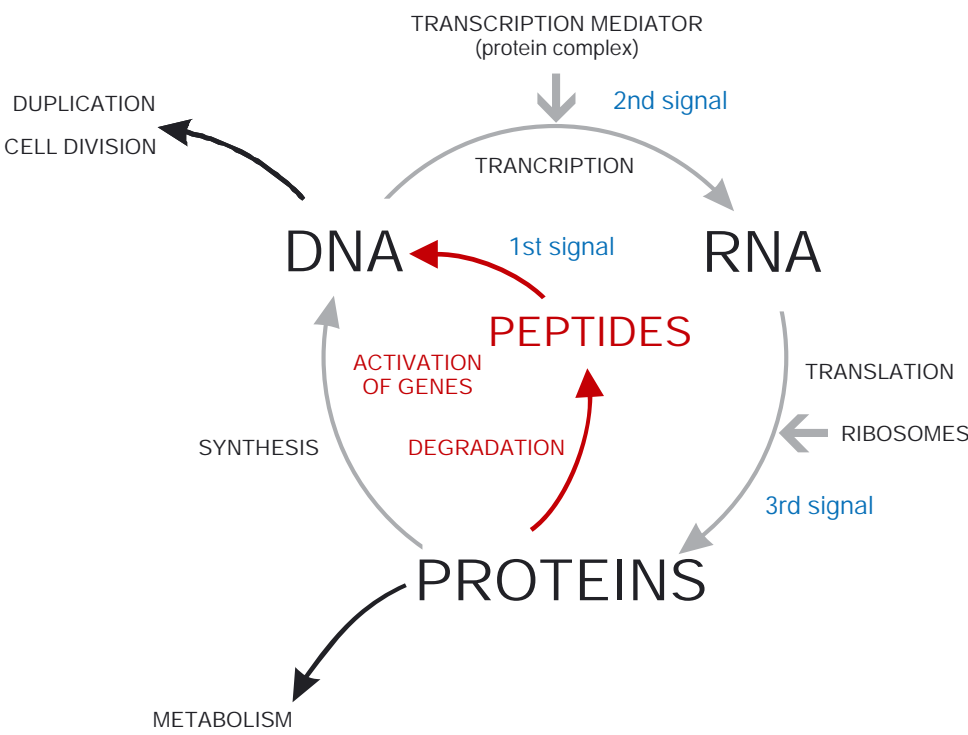


INTERRELATION OF LIFE STYLE, DISEASE, OCCUPATION
AND TRUE BIOLOGICAL AGEING



«AGEING AND WORKING CAPACITY», WHO REPORT, GENEVA, 1995

MECHANISM OF PEPTIDE REGULATION OF BIOSYNTHESIS



DEPARTMENT OF BIOGERONTOLOGY

Head of the Department -
Prof. V.Kh. Khavinson, M.D., Ph.D.
Associate Member of the Russian Academy of Medical Sciences

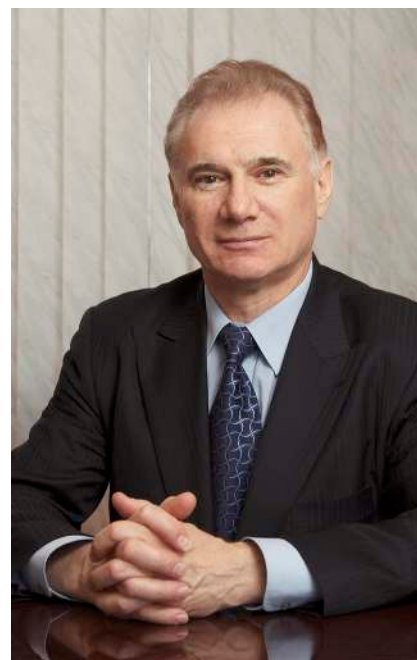
Laboratory of Oncogerontology
(Head - Prof. V.N. Anisimov, M.D., Ph.D.);

Laboratory of Pharmacology of Peptides
(Head - Prof. V.V. Malinin, M.D., Ph.D.);

Laboratory of Biogerontology
(Head - Dr. T.V. Kvetnaya, Ph.D.);

Laboratory for Research on Pharmaceuticals
(Head - Prof. V.K. Osipovich, Ph.D.);

Laboratory of Chemistry of Peptide
(Head - Dr. E.I. Grigoriev, Ph.D.).



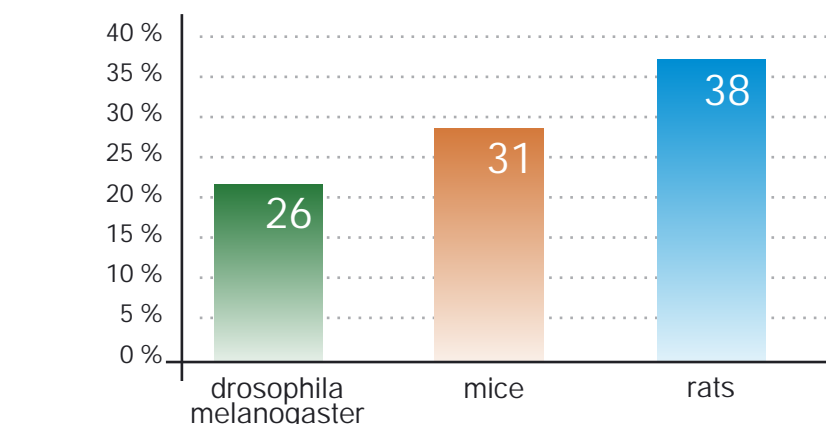
Main research efforts of the Department are concentrated on the study of mechanisms of peptidergic regulation of homeostasis in the course of organism ageing. Laboratories within the Department are engaged in the study of molecular mechanisms underlying interaction between peptides and nucleic acids, as well as of geroprotective activities of peptides, of genetic mechanisms of peptide bioregulators' neuroprotective effect; mechanisms of peptides' involvement in the enhancement of adaptive capacities in ageing. The research team of the Department performs the comparative analysis of the effects of certain amino acids and small peptides on organotrophic cell cultures, of the effects of peptide

bioregulators on psychoemotional status of old and very old persons. The role of peptides and melatonin in the mechanisms of ageing and carcinogenesis is continuously under study. There are performed computer modeling and synthesis of physiologically active peptides with subsequent comprehensive study of their biological properties and ongoing optimization of requirements for the studies of new peptide pharmaceuticals. The search for new biomarkers for in vivo diagnostics of age-related diseases, as well as the assessment of their diagnostic and prognostic value constitute a special issue in the research activities of the Department.



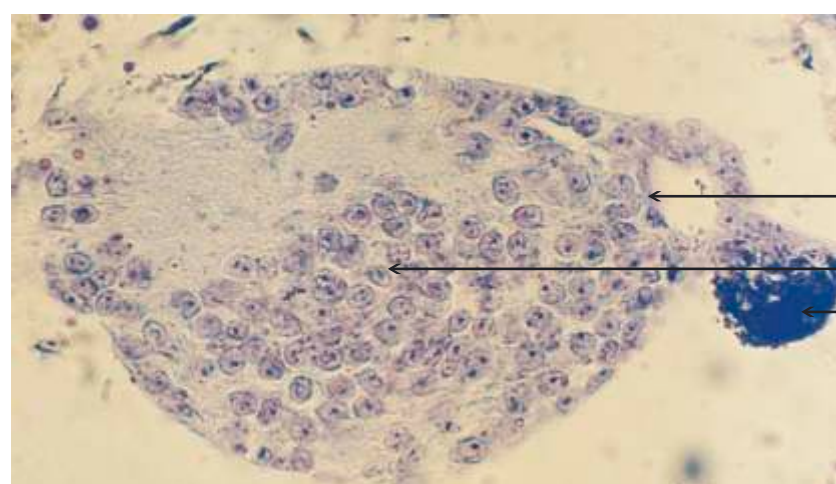
Prof. V.G. Morozov, M.D., Ph.D.
Prof. V.V. Malinin, M.D., Ph.D.
Prof. V.N. Anisimov, M.D., Ph.D.

THE INCREASE IN THE AVERAGE LIFE SPAN OF EXPERIMENTAL ANIMALS TREATED WITH PEPTIDE BIOREGULATORS



Mean results of 15 experiments, 1973-2003, V.Kh. Khavinson, V.N. Anisimov, 2003

INDUCTIVE EFFECT OF RETINAL PEPTIDES ON POLYPOTENTIAL CELLS OF EARLY GASTRULA ECTODERM IN XENOPUS LAEVIS

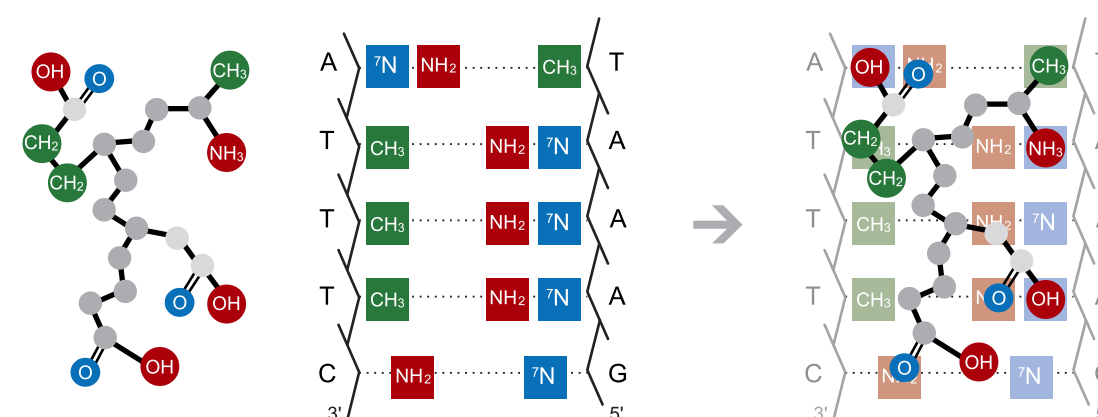


retina

brain

pigmented epithelium

A MODEL OF COMPLEMENTARY INTERACTION OF REGULATORY PEPTIDES WITH DNA DOUBLE HELIX



Interaction of proton donor and proton acceptor groups of the DNA and the tetrapeptide is marked by superimposed red and blue groups. Hydrophobic interaction of methyl groups of alanine residue and thymine is marked with green color.



Head of the Department -
Prof. I.M. Kvetnoy, Ph.D.

Laboratory of Functional Morphology
(Head - Prof. I.M. Kvetnoy, Ph.D.)

Laboratory of Biochemistry
(Head - Prof. A.V. Arutyunian, Ph.D.)

Laboratory of Neuroendocrinology
(Head - Dr. S.S. Kononov, Ph.D.)

Laboratory for the Genetics of Ageing
(Head - Prof. V.N. Gorbunova, Ph.D.)



Major research performed at the Department relates to the study of neuroimmunoendocrine mechanisms of ageing. The laboratories of this Department are engaged in molecular-biologic studies of structural and functional organization of diffusal neuroimmunoendocrine system in ageing, as well as of molecular and cellular mechanisms of ageing of the human thymus; functional morphology and biochemistry of human reproductive system in ageing; mechanisms of alteration in organism antioxidation

status in ageing; genetic mechanisms of neuroprotective effect of peptide bioregulators; regulatory effects of small synthesized peptides on the differentiation of hemopoietic stem cells. Methods of molecular-genetic diagnostics for the prognosis, optimized prophylaxis and treatment of the most frequently occurring multifactorial diseases in different age groups are designed. Genetic predisposition to certain multifactorial diseases may be identified using the methods developed in this Department.

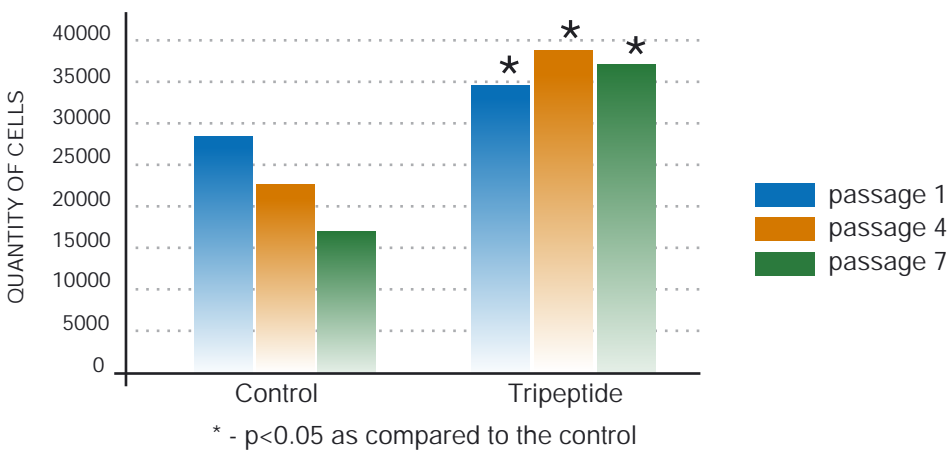


Head of the 1st Polyclinical
Amalgamation of the Medical Center,
Administration of the President of
Republic of Kazakhstan
Dr. V.V. Benberin, Prof. I.M. Kvetnoy,
Dr. V.O. Polyakova, Institute Director
Prof. V.Kh. Khavinson, Associate
Member of the Russian Academy of
Medical Sciences.



V.I. Matvienko, the Governor
of St. Petersburg, awards
Dr. V.O. Polyakova
with a St. Petersburg Prize
for Young Researchers of 2004.

THE INCREASE IN THE QUANTITY OF THYMOCYTES IN CO-CULTURES WITH THYMUS
EPITHELIUM CELLS UNDER THE EFFECT OF THE TRIPEPTIDE



EXPRESSION OF TRANSCRIPTIONAL PROTEINS IN HUMAN THYMUS EPITHELIUM CELLS

Groups (age)	Pax1		Hoxa3		TLP	
	Optic density (conv. units)	Area of expr. (%)	Optic density (conv. units)	Area of expr. (%)	Optic density (conv. units)	Area of expr. (%)
1 6 months - 1 year	2.05±0.06	3.36±1.54	1.44±0.02	5.28±1.13	4.02±0.11	5.76±1.18
2 (65-79 years)	0.54±0.02*	1.24±0.06*	1.36±0.02	1.97±0.08*	2.02±0.09*	3.12±0.07*
3 (80-95 years)	0.39±0.01*	0.99±0.03*	1.47±0.03	1.54±0.06*	0.97±0.02*	2.11±0.04*

immunofluorescent confocal microscopy * - p<0.05 as compared to Group 1

It was for the first time found, that transcriptional proteins (Pax 1, Hoxa3, TLP), which regulate the differentiation of thymus epithelium cells and are needed for the maturation and functioning of T-lymphocytes, are expressed in the human thymus from the moment of birth, their quantity being reduced in the course of ageing.



Head of the Department -
Prof. K.L. Kozlov, M.D., Ph.D.

Laboratory of Age-Related Clinical Pathology
(Head - Prof. G.A. Ryzhak, M.D., Ph.D.)

Laboratory of Demography of Ageing
(Head - Dr. G.L. Safarova, Ph.D.)

Laboratory of Urogenital System Pathologies
(Head - Dr. V.Kh. Kheyfets, Ph.D.)

Laboratory of Ophthalmology
(Head - Dr. S.V. Trofimova, M.D., Ph.D.)

Laboratory of Preventive Medicine
(Head - Dr. A.S. Bashkireva, Ph.D.)



Main research activities of this Department are focused on studying the pathogenesis, as well as the optimization of diagnostics and therapy of age-related diseases. The laboratories of this Department are engaged in the study of peptidergic prophylaxis and treatment of different diseases of the human retina (diabetic retinopathy, age-related macular degeneration, degenerative and inflammatory lesions of the retina); morphogenesis and new methods of diagnosis and treatment of age-related tumors in the urogenital system; prophylactic methods involving peptide bioregulators for the correction of patho-

logies, for the improvement of intellectual and physical working capacity in persons from different age groups working under adverse conditions. The methods of complex treatment for cardiology patients of older age groups such as angiography and interventional arterioplastics, as well as non-invasive methods of cardio- and angioplastics are also designed and improved by the research team of this Department. The study of demographic aspects of population ageing is a separate direction of studies in this Department.

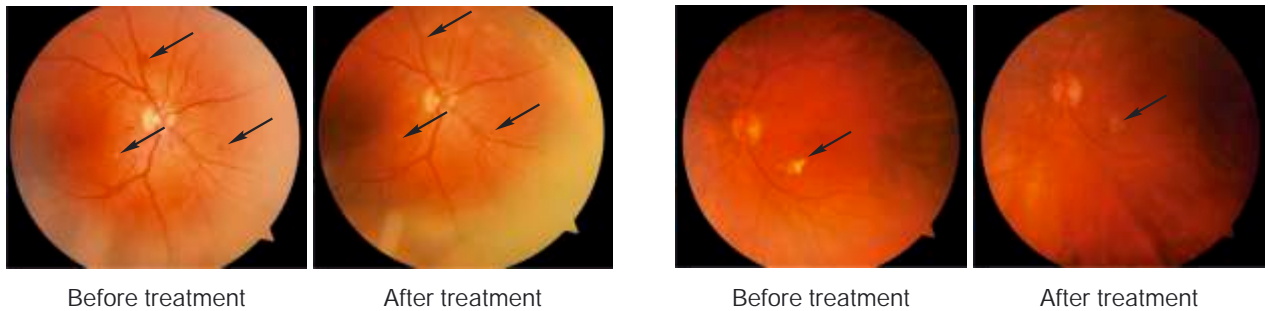


Dr. S.V. Trofimova examines the eye fundus of a patient

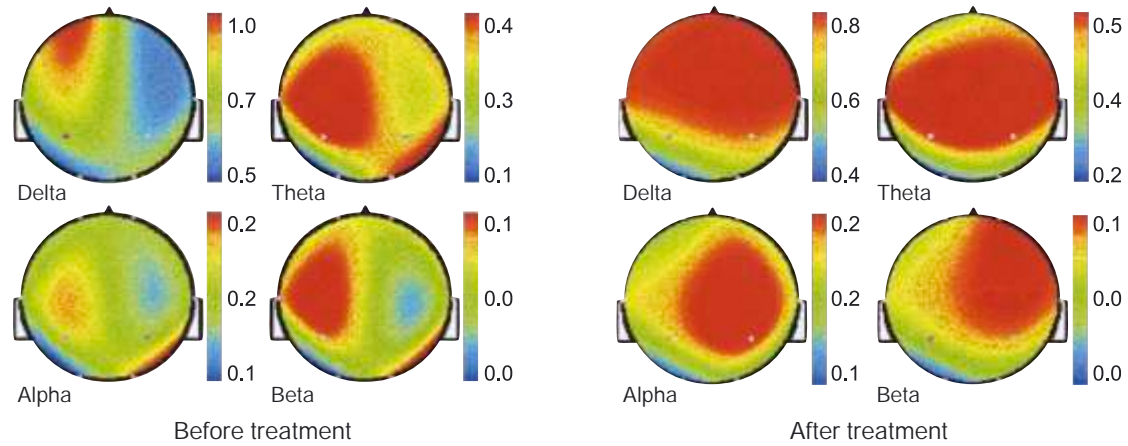


Prof. K.L. Kozlov is getting ready to perform coronarography

EFFECT OF PEPTIDE BIOREGULATORS ON OPHTHALMOSCOPIC STATUS OF THE EYE FUNDUS IN A DIABETIC RETINOPATHY PATIENT



A CHANGE IN THE ENCEPHALOGRAM ACHIEVED BY TREATMENT WITH PEPTIDE BIOREGULATORS





FROM EXPERIMENT TO MEDICINAL SUBSTANCES

Long-term investigations performed by the research team of the Institute resulted in creating a new class of geroprotectors - peptide bioregulators. The administration of peptide bioregulators enables effective prevention of premature ageing and therapy of age-related diseases.

Researchers of the Institute are the inventors of a number of medicinal and prophylactic pharmaceutical substances, which have been adopted by the Russian Ministry of Public Health and are presently under serial production: 6 geroprotective medications (Thymalin, Thymogen, Epithalamin, Prostatilen, Cortexin, Retinalamin); 30 types of cell metabolism bioregulators, as well as 5 highly efficient synthesized peptides (Vilon, Epitalon, Cortagen, Livagen, Prostimax), which largely have no analogues in other countries. There were chemically synthesized over 100 biologically active peptides which revealed the ability to hold back the process of ageing.

According to the concept of peptide bioregulation, a theory of endogenous peptide bioregulators' involvement in the maintenance of structural and functional homeostasis of cell populations, containing and producing these factors, was formulated. These endogenous peptides became commonly known as «Cytomedins». Cytomedins control gene expression and protein synthesis, thus preventing age-related accumulation of quantitative structural and functional alterations, which are the markers of transition of a biological system from the norm to the pathology. Disordered peptide bioregulation reduces organism resistance to external and internal destabilizing factors, serving a cause of premature ageing.

A long record of peptide bioregulators application in the health service has demonstrated their high effectiveness in combating various disease and pathologies, including those refractory to other medicines.

The researchers developed a new technology for creating biologically active food supplements (parapharmaceuticals), based on peptide complexes isolated from animal organs and tissues. A new group of parapharmaceuticals has received a name of «Cytomaxes». Biologically active food supplements are produced in the form of tablets and capsules. Cytomaxes exert a regulatory effect on the cellular

level and are used for improving the organism resistance to the impact of adverse environmental, climatic, occupational and other factors, as well as during the rehabilitation period after surgeries, traumas, diseases; in case of malnutrition, high physical loads; for the purpose of maintaining the functions of the main organism systems in old and very old persons in order to reduce the risk of disease occurrence.

CYTOMAXES - NATURAL PEPTIDE COMPLEXES (PARAPHARMACEUTICALS)

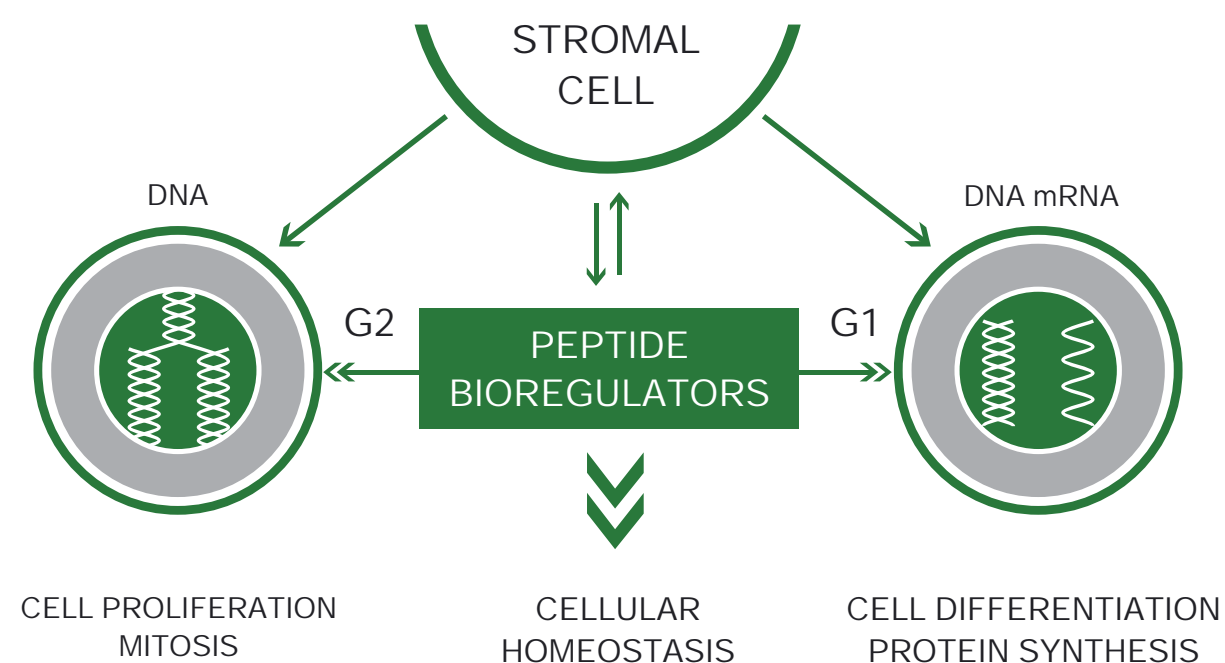
CERLUTEN®	brain bioregulator	... Correction of central nervous system functions
THYREOGEN®	thyroid gland bioregulator	... Correction of endocrine system functions
VENTFORT®	vessels bioregulator	... Correction of cardiovascular system functions
SIGUMIR®	cartilaginous tissue bioregulator	... Correction of locomotor apparatus functions
SVETINORM®	liver bioregulator	... Correction of digestive system functions
SUPREFORT®	pancreas bioregulator	
VLADONIX®	thymus bioregulator	... Correction of immune system functions



One of the recent achievements of the Institute is a technology for synthesizing from amino acids a new group of bioregulators - «Cytogens». Cytogens are

peptide pharmaceuticals and parapharmaceuticals, which exert a pronounced regulatory effect on protein biosynthesis in the cells.

MECHANISM OF PEPTIDE BIOREGULATORS EFFECT



CYTOGENS - SYNTHESIZED PEPTIDES (PHARMACEUTICALS AND PARAPHARMACEUTICALS)

PINEALON®	synthesized brain peptide	... Correction of central nervous system functions
VESUGEN®	synthesized vessels peptide	
CARDIOGEN®	synthesized cardiac peptide	... Correction of cardiovascular system functions
CARTALAX®	synthesized cartilaginous tissue peptide	... Correction of locomotor apparatus functions
OVAGEN®	synthesized liver peptide	... Correction of liver functions
CHONLUTEN®	synthesized lungs peptide	
BRONCHOGEN®	synthesized bronchial peptide	... Correction of respiratory system functions
PANCRAGEN®	synthesized pancreas peptide	... Correction of carbohydrate metabolism
CRYSTAGEN®	synthesized thymus peptide	... Correction of immune system functions
TESTAGEN®	synthesized testis peptide	... Correction of male sexual functions



On the basis of the natural peptide complexes, the Institute researchers developed a new class of medicinal substances - «Peptomaxes». These medicinal substances significantly improve the effectiveness of standard methods of organism rehabilitation after the impact of different adverse factors

(traumas, irradiation, intoxication, infection, psycho-emotional stress). They are used for preventing and correcting different conditions, which are accompanied by disordered organism resistance and some physiological functions, as well as in age-related pathology.

PEPTOMAXES - NATURAL POLYPEPTIDE COMPLEXES (PHARMACEUTICALS)

BRAIN EXTRACT	.....	Correction of central nervous system functions
PINEAL GLAND EXTRACT	.....	Correction of endocrine system functions
THYROID GLAND EXTRACT	.....
VESSELS EXTRACT	.....	Correction of cardiovascular system functions
CARTILAGES EXTRACT	.....	Correction of locomotor apparatus functions
LIVER EXTRACT	.....	Correction of digestive system functions
KIDNEYS EXTRACT	.....
TESTIS EXTRACT	.....	Correction of urogenital system functions
OVARIES EXTRACT	.....
URNARY BLADDER EXTRACT	.....
RETINAL EXTRACT	.....	Correction of visual functions

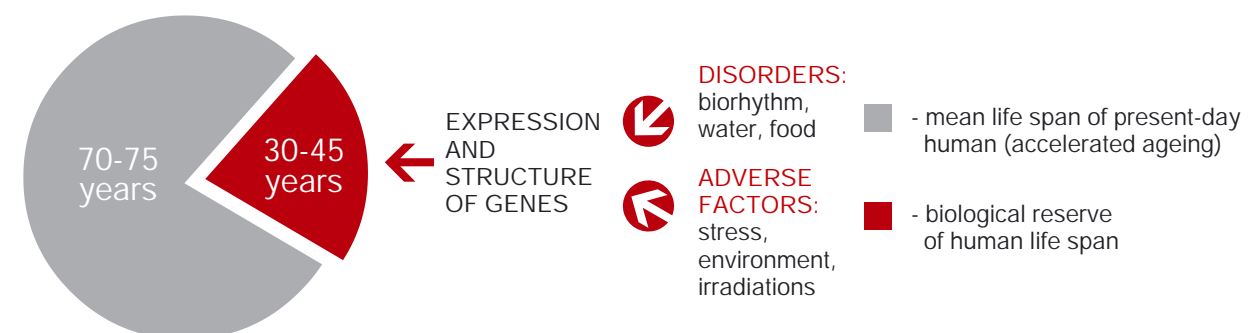


COSMETIC SERIES «COMPLIMENT» FOR SKIN CARE (SKIN ANTI-AGEING)

Name of the cream	Active substance	Main effect
REGENERATIVE	Thymus peptides	Accelerated regeneration of skin cells
REINFORCING	Cartilages peptides	Enhanced resilience and elasticity of the skin
RESTORATIVE	Pineal gland peptides	Reduced negative impact of adverse environmental factors and emotional stress on the skin
INTENSIVE	Vessels peptides	Enhanced nutrition of skin cells

BIOREGULATION THERAPY - AN AVENUE TOWARDS LONGEVITY

THE POSSIBILITY OF EXPANDING MEAN HUMAN LIFE SPAN UP TO THE SPECIFIC LIMIT (BIOLOGICAL RESERVE)



For the first time ever in the world medical practice a new medical technology (bioregulation therapy) has been designed and put into practice for restoring and maintaining main functions of the organs and tissues throughout the genetically determined span of human life (110-120 years). The complex of measures aimed at preventing age-related pathology, holding back ageing and thus extending the life span up to the specific limit is based on the administration of peptide bioregulators.

The 30-year experience of clinical study of peptide bioregulators has pointed out three main aspects of their application in gerontology.

The first one is geroprotective. The ultimate goal of gerontological research is to slow down the rate of ageing and to increase human life span and, in particular, the working years.

The efficacy of peptide bioregulators was confirmed experimentally. Their long-term administration to mice, rats and drosophila melanogaster entailed a

30-40% expansion of average life span.

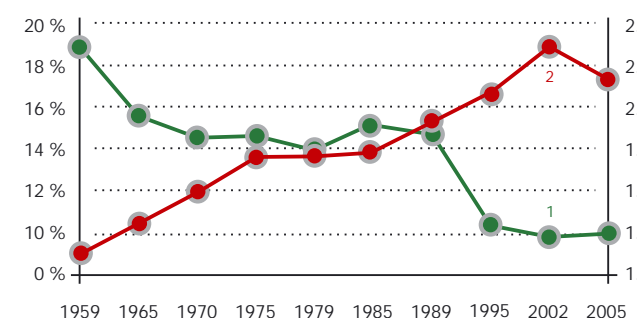
Geroprotective effects of Thymalin and Epithalamin were dynamically tested for 14-20 years and proved highly effective in clinical application. The indices of the two major homeostatic systems - neuro-endocrine and immune - were restored to their normal values in middle-aged and elderly patients.

The second one is preventive. Peptide bioregulators may be administered to healthy subjects for the prevention of age-related involution changes, which serve a prerequisite for pathology development.

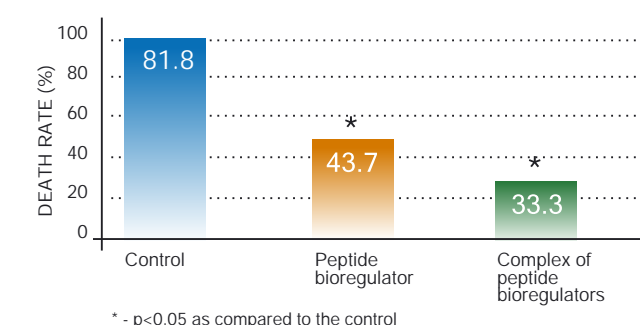
The third one is therapeutic. It consists in the administration of peptide bioregulators to elderly patients with various diseases and pathologies for treatment or rehabilitation.

The use of peptide bioregulator-based pharmaceuticals and their synthesized analogues opens up new vistas in prevention and therapy of age-related diseases.

DYNAMICS OF BIRTH RATE (1) AND POPULATION 60 YEARS AND OLDER (2) IN RUSSIA (1959-2005)



EFFECT OF PEPTIDE BIOREGULATOR ON THE DEATH RATE OF PATIENTS (observation period 12 years, initial age 66-94 y.o.)



MEDICAL CENTRE OF THE INSTITUTE

The Medical Centre of the Institute is licensed for providing medical services and possesses a research, methodological and clinical base for extending specialized medical aimed at preventing and treatment of age-related pathologies. There is conducted a complex assessment of health status, as well as treatment of elderly patients and those with symptoms of premature ageing at the Centre.

A new system of complex diagnostics, prognosis, prevention and correction of age-related pathology has been designed and introduced into clinical practice at the Institute. It allows to reduce the time of patients examination and to enhance the efficacy of treatment and rehabilitation measures.

The assessment complex is aimed at registering

early signs of reduced functional activity and reserves of organs and systems using various methods of laboratory, functional and x-ray diagnostics.

The clinical practice of the Institute continuously incorporates the latest achievements of immunology, endocrinology and medical genetics. In cooperation with the leading Russian specialists in genetics the Institute researchers designed methods for the identifying genetic susceptibility of the organism to different diseases. Molecular-genetic investigation provides a unique possibility of revealing the disease at an early stage in the absence of its clinical manifestations. Basing on the results of genetic analysis, the medical specialists of the Institute formulate a complex of preventive and therapeutic measures. Individual ap-

proach to patients treatment based on the scientific interpretation of genetic results enables the maximum efficacy in the prevention of pathologic processes. The analysis conducted help to identify the combination of special antigens (specific proteins) in the blood, which may point out a high risk of tumor development. Such method facilitates the prognosis of pathologic alterations and selection of preventive and therapeutic measures.

Bioregulation therapy is prescribed in combination with standard treatment methods. The patient's health status is continuously monitored, and individual schemes of pharmaceutical therapy are selected with respect to the alterations occurring in the organism. In the vast majority of cases it enables

not only to stabilize the patient's health status, but also to noticeably improve it.

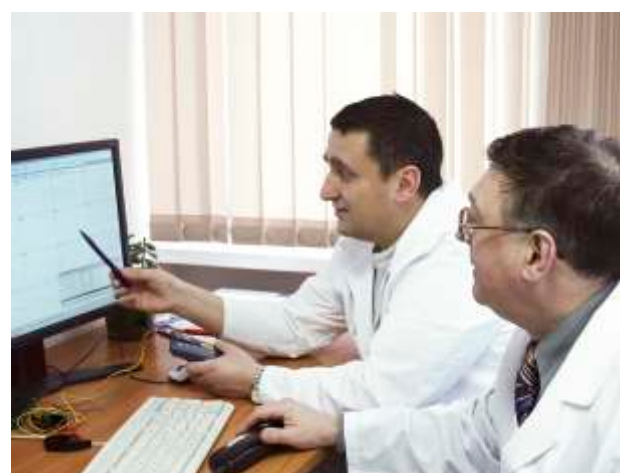
The Medical Center of the Institute is outfitted with state-of-the-art research and medical equipment. Alongside with stationary diagnostics laboratory there is available a mobile one (ultrasound diagnostics appliances, hard- and software complexes for the study of cardiovascular and pulmonary systems, a universal biochemistry laboratory). These laboratories and appliances enable the employees of the Institute to perform diagnostics and treatment in different regions of Russia.



Dr. O.Yu. Raigorodsky, Ph.D.
Dr. A.A. Veretenko, Ph.D.



Dr. S.V. Trofimova, M.D., Ph.D.



Prof. K.L. Kozlov, M.D., Ph.D.
Prof. Yu.S. Titkov, M.D., Ph.D.



Valery Leontiev and the staff of the Medical Center



Dr. N.N. Soroka, Ph.D.



Dr. N.G. Zakutsky, Ph.D.



Researcher S.N. Balashova



Dr. G.M. Gurinova



A COMPLEX OF DIAGNOSTIC AND THERAPEUTIC PROCEDURES PERFORMED IN THE MEDICAL CENTER OF THE INSTITUTE

METHODS FOR EVALUATION OF THE BIOLOGICAL AGE AND THE RATE OF AGEING

GENETIC INVESTIGATION

Complex identification of the structural organization of genetic determinants responsible for cardiovascular system functioning, evaluation of metabolic and regulatory processes and of the risk of pathological alterations.
Gene amplification is performed using polymerase chain reaction (PCR).

BIOCHEMICAL INVESTIGATION

Assay of biochemical indices of the blood, reflecting the status of protein, carbohydrate, lipid and mineral metabolism.
Assay of antioxidants and pro-oxidants content in the blood plasma and erythrocytes to evaluate the age-related changes in the mechanisms of cellular protection of the organs and tissues.
Analysis of urinary biochemical indices.

IMMUNOFERMENTAL ANALYSIS

Detection of markers of trophoblastic tumours, cancer of the pancreas, stomach, ovaries, small-cell lung carcinoma and neuroblastoma in children, mammary gland cancer, tumors of the gastrointestinal tract; hepatocellular carcinoma, primary hepatic cancer, prostate cancer, lymphomas; hormones, markers of infectious diseases
Assay of hormone levels;
Diagnostics of allergic diseases.

EXAMINATION OF CARDIOVASCULAR SYSTEM

ECG, spectral analysis variable pulse measurement, integral and differential rheography of the body, polycardiography, phonocardiography, bicycle ergometry using computerized diagnostic systems.
Computer dopplerography of the vessels.

RESPIRATORY SYSTEM EXAMINATIONS

Computerized investigation of the ventilation capacity of the lungs.

ULTRASOUND DIAGNOSTICS

Ultrasound diagnostics of stomach parenchymal organs.
Ultrasound examination of heart, parenchymal organs and soft tissues, rectal and vaginal examinations.

DIAGNOSTICS AND TREATMENT OF UROLOGICAL DISEASES

Uroflowmetric index assay.
Evaluation of the status of urethra and urinary bladder.
Treatment of non-tumor diseases of the prostate.

DIAGNOSTICS AND TREATMENT OF PSYCHO-NEUROLOGICAL PATHOLOGIES

EEG examination with computerized evaluation of cerebral functions.
Computerized psychophysiological investigation of cerebral functions.
Acupuncture, punctate massage, various types of application.
Specialized massage with elements of manual therapy.
Electromyostimulation.

EYE EXAMINATION

Standard procedures of examination of visual organs.
Fluorescent angiography for the evaluation of retinal blood flow.
Stereoscopic imaging of the eye fundus.
Electrophysiological examination of the retinal function.

PRIORITY INDICATIONS FOR PEPTIDE BIOREGULATORS

PREVENTION OF PREMATURE AGEING

Correction of pathologic alterations.
Improvement of intellectual and physical working capacity.

PREVENTION AND TREATMENT OF AGE-RELATED PATHOLOGY

Cardio-vascular function disorders.
Respiratory disorders.
Gastrointestinal disorders.
Metabolic and hormonal disorders.
Secondary immunodeficiencies.
Emotional distress.

TREATMENT OF EYE DISEASES

Diabetic retinopathy.
Hereditary tapetoretinal degeneration.
Central and peripheral tapetoretinal abiotrophies with prevalent changes in pigmented epithelium.
Secondary posttraumatic and post-inflammatory central retinal degeneration.
Pigmented retinal degeneration of various etiologies.
Initial stage of cataract of various etiologies.
Virus keratoconjunctivitis.

NEUROLOGICAL DISEASES TREATMENT

Craniocerebral trauma at the stage of rehabilitation and residual period.
Cerebral blood circulation disorders at the stage of rehabilitation and residual period.
Degeneration of vertebral column.

CORRECTION OF HORMONAL SHIFTS

Dysfunctional climacteric uterine hemorrhages caused by anovulatory process involving endometrial hyperplasia.
Mastopathy.
Fibroadenomatosis.

PREVENTION AND TREATMENT OF UROGENITAL DISEASE

Chronic prostatitis.
Benign hyperplasia of the prostate.
Traumas of the urinary bladder, urethra and prostate.
Acute pyelonephritis.
Chronic pyelonephritis.
Male infertility.

PREVENTION AND TREATMENT OF AGE-RELATED SKIN ALTERATIONS (GERONTOCOSMETOLOGY)

Dry and thin skin.
Porosity.
Teleangiectasia, spider angioma.



DISSERTATION COUNCIL AND TRAINING OF SPECIALISTS



The initiative and efforts of the Institute staff made it possible to include a new specialty No. 14.00.53 «Gerontology and Geriatrics» (Medical and Biological Sciences) into the «List of Specialties» of the Highest Attestation Committee of the Ministry of Education and Science of the Russian Federation.

In June 2001 under the Decree of the Highest Attestation Committee the Dissertation Council D 601.001.01 was established on the basis of the Institute for the purpose of upholding doctorate and Ph.D. theses in this specialty. The Council consists of 25 members, including 2 Members and 3 Associate Members of the Russian Academy of Medical Sciences.

14 doctorate and 77 Ph.D. theses were upheld at the Institute in 2001-2006. Five doctorate theses out of 14 were defended by the researchers of the Institute.

In October 2001 for the first time ever in Russia the Institute got a License of the Ministry of Education, authorizing professional educational activities in the field of «Gerontology and Geriatrics». In December 2005 a similar License was awarded by the Federal Service for Supervision in Education and Science. Under these licenses, a system of post-graduate studies and advanced professional training in the field of gerontology and geriatrics functions on the basis of the Institute.



Chairman of the Dissertation Council
Prof. V.Kh. Khavinson, M.D., Ph.D.
Academic Secretary of the Dissertation Council
Dr. L.S. Kozina, Ph.D.



Members of the Dissertation Council
Prof. V.N. Anisimov, M.D., Ph.D.,
Prof. A.Yu. Baranovsky, M.D., Ph.D.,
Prof. A.L. Arieu, M.D., Ph.D.



Chairman of the Dissertation Council of the Institute Prof. V.Kh. Khavinson, Academic Secretary of the Institute Dr. T.V. Kvetnaya, and Prof. J.-P. Timmermans from Antwerp University, Belgium, who has been awarded the title of the Honorary Doctor of the St. Petersburg Institute of Bioregulation and Gerontology of the North-Western Branch of the Russian Academy of Medical Sciences.



Chairman of the Dissertation Council
V.Kh. Khavinson grants a diploma
to Dr. V.S. Sharin.



FUNDAMENTAL ACHIEVEMENTS OF THE INSTITUTE

During 15 years period (1992-2007) the researchers of the Institute have reached significant success in bioregulation and gerontology. Active research and practical efforts resulted in the following fundamental achievements:

The concept of peptide regulation of ageing has been developed, basic mechanisms of premature ageing development have been identified. It was found, that the administration of peptide bioregulators resulted in a reliable increase in the mean life span of animals by 30-40%. Geroprotective activity of the peptides is related to their effect on the mechanisms of immunity, hormonal regulation, antioxidant protection, regulation of genes expression and telomerase activity.

A new practical direction in modern medicine - bioregulation therapy - has been developed. Bioregulation therapy is based on pathogenetically substantiated administration of peptide bioregulators. It was found, that the administration of thymus and pineal gland peptides to old and very old patients restores the level of melatonin, as well as the indices of antioxidant protection, immune, endocrine and cardiovas-

cular systems and brain functions, thus leading to a reliable decrease in the death rate.

There has been established a cardioprotective effect of Epithalamin in case of coronary invasions (coronary angiography and coronary angioplastics with coronary arteries stenting) in geriatric patients suffering ischemic heart disease. Administration of Epithalamin to old and very old patients at the acute stage of myocardium infarction entailed a decrease in complication occurrence by 50-70%, as well as a 2-fold fall in the death rate, and reduced periods of staying in the hospital.

In cooperation with the leading Russian specialists in genetics, a completely new system of diagnostics of the structural organization of 20 genes, allowing to identify the predisposition to cardiovascular diseases, tumors, as well as metabolic and regulatory disorders, was designed.

A method of in vivo diagnostics of Alzheimer's disease, based on verifying the expression of tau-protein in human blood lymphocytes, was developed, which confirms the systemic character of this disease. There was recognized the role of melatonin in



the mechanisms of ageing and carcinogenesis, as well as its value as a biological marker in the diagnostics and prognosis of age-related diseases development.

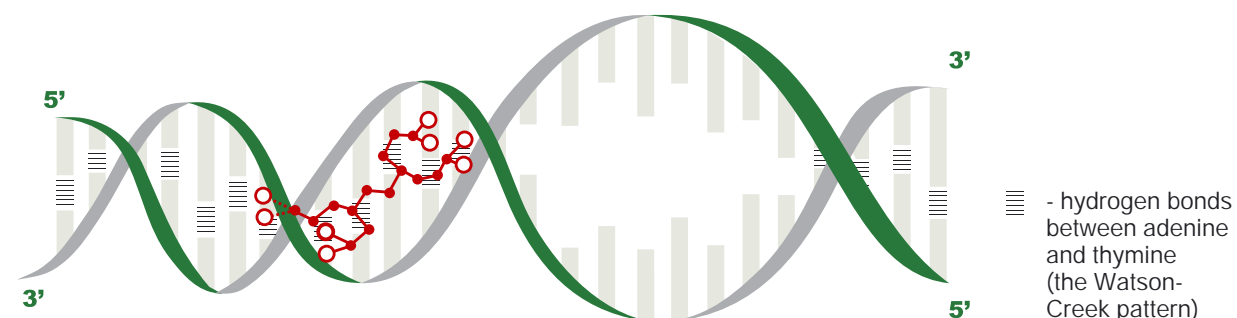
A new group of geroprotective pharmaceuticals and parapharmaceuticals was introduced into mass production.

The achievements of the Institute are protected by 125 patents, including 40 foreign ones (USA,

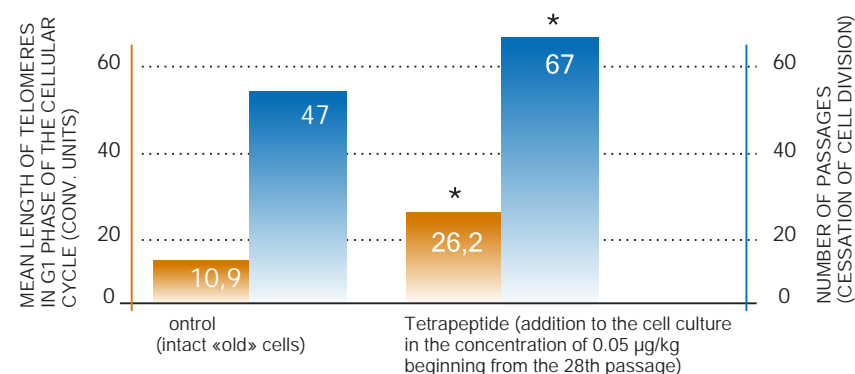
Japan, Switzerland, Australia etc.), as well as by 70 trademarks.

There has been created a scientific school in the field of «biogerontology» (130 doctorate and Ph.D. theses were prepared and upheld, more than 700 research papers were published, including 48 monographs, 43 scientific publications, guidelines, methodological references, recommendations).

A SCHEME OF THE LOCAL SPLITTING OF DNA STRANDS AS A RESULT OF TETRAPEPTIDE BINDING IN THE DNA DOUBLE HELIX MAJOR GROOVE

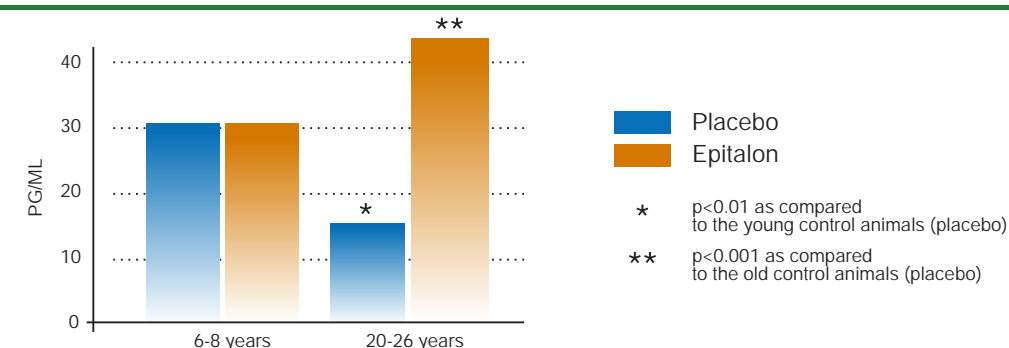


OVERCOMING OF THE LIMIT OF FIBROBLASTS DIVISION BY ADDING THE TETRAPEPTIDE

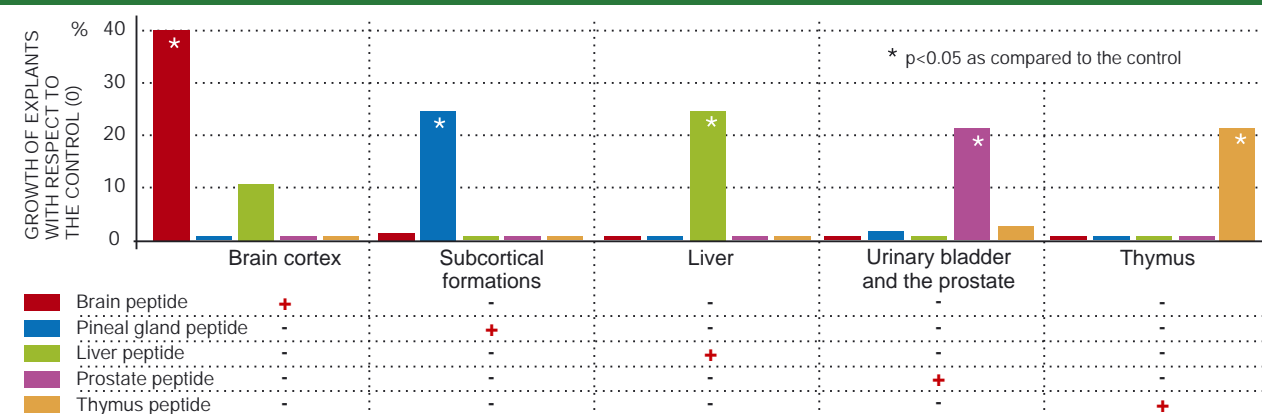


Increase in the number of cell divisions in the experiment by 42.5% as compared to the control.

EFFECT OF EPITALON ON THE PRODUCTION OF MELATONIN IN MONKEYS OF DIFFERENT AGES



PEPTIDE TISSUE SPECIFIC REGULATION



COOPERATION WITH RUSSIAN AND FOREIGN ORGANIZATIONS

The Institute carries out its research and medical activities in close cooperation with other Russian research institutions.

Russian Academy of Sciences: I.P. Pavlov Research Institute of Physiology; Research Institute of Nuclear Physics; Research Institute of High Molecular Compounds; Research Institute of Gene Biology.

Russian Academy of Medical Sciences (RAMS): Research Institute of Experimental Medicine of the RAMS; D.O. Ott Research Institute of Obstetrics and Gynecology of the RAMS; Research Institute of

Influenza of the RAMS; Research Institute of Medical Primatology of the RAMS; P.K. Anokhin Research Institute of Normal Physiology of the RAMS; Radiological Medical Research Center of the RAMS; N.N. Blokhin Russian Research Center of Oncology of the RAMS.

Higher educational establishments: St. Petersburg State Medical Academy named after I.I. Mechnikov; St. Petersburg State Medical University named after Acad. I.P. Pavlov; St. Petersburg Medical Academy for Post-Graduate Studies; S.M. Kirov Military

Medical Academy; Moscow State Medical Dental University; Saratov State Medical University; Chita State Medical Academy; Belarus State Academy for Post-Graduate Studies; Institute of Gerontology of the Ukraine Academy of Medical Sciences.

The Institute is actively involved in introducing the results of research projects into the clinical practice in Europe and rest of the world. The Institute carries out studies on 12 research projects under the agreements on priority research cooperation with 20 countries. The Institute cooperates with a wide range

of organizations and institutions.

Non-governmental cooperation has been established between the Institute and the United Nations Organization (UNO) and the International Association of Gerontology and Geriatrics (IAGG). The Institute has been included in the list of research centers, cooperating in the framework of the UN Research Agenda on Ageing for the 21st Century.

International activities of the Institute are coordinated by the International Research Department (Head - Olga N. Mikhailova, Ph.D.).



Vice President of the Russian Academy of Medical Sciences, Chairman of the Presidium of the North-Western Branch of the Russian Academy of Medical Sciences Acad. B.I. Tkachenko; Member of the Presidium of the North-Western branch of the Russian Academy of Medical Sciences, Institute Director Prof. V.Kh. Khavinson; Advisor of the Presidium of the Russian Academy of Medical Sciences, Acad. F.I. Komarov.



Acad. A.D. Nozdrachev, Member of the Russian Academy of Sciences, and the researchers of the Institute at the meeting with the Nobel Prize Laureate Acad. Zh.I. Alferov.



Nobel Prize Laureates Robert Huber, Yuan Lee, Ivar Giaever and Associate Member of the Russian Academy of Sciences Prof. V.Kh. Khavinson at the St. Petersburg Meeting of Nobel Laureates «Science and Progress of Mankind», 2003.



Acad. V.A. Chereshnev, B.R. Dorokhova, Acad. A.I. Grigoriev, Prof. M.V. Chereshneva, Prof. V.Kh. Khavinson, Nobel Prize Laureate Ch. de Duve with his wife (Belgium), Acad. I.I. Dedov, Nobel Prize Laureate R. Zinkernagel with his wife (Switzerland); St. Petersburg Meeting of Nobel Prize Laureates «Science and Progress of Mankind», 2003.



Prof. V.N. Anisimov, Acad. I.P. Ashmarin, Vice President of the Russian Academy of Medical Sciences Acad. B.I. Tkachenko, Prof. V.Kh. Khavinson, Associate Member of the Ukraine Academy of Medical Sciences Prof. V.V. Bezrukov; 1st International Seminar «Ecological Gerontology», Tashkent, Uzbekistan, 2003.



Director of the Research Institute of Medical Primatology of the Russian Academy of Medical Sciences Acad. B.A. Lapin, Prof. V.Kh. Khavinson, Prof. L.A. Yakovleva; All-Russian Conference «Prospects of Fundamental Gerontology», St. Petersburg, 2006.



Acad. V.T. Ivanov and Acad. N.F. Myasoedov among the participants of the All-Russian Symposium on Chemistry and Biology of Peptides, St. Petersburg, 2005.



Prof. I.M. Kvetnoy, Acad. N.A. Agajanyan, Acad. V.N. Shabalin, Prof. V.Kh. Khavinson, All-Russian Conference «Prospects of Fundamental Gerontology», St. Petersburg, 2006.

GERONTOLOGICAL SOCIETY OF THE RUSSIAN ACADEMY OF SCIENCES

In 1994 the Academic Council of the St. Petersburg Institute of Bioregulation and Gerontology came forth with the initiative to establish the Gerontological Society of the Russian Academy of Sciences. Prof. V.N. Anisimov. was elected the President of the Gerontological Society, and Prof. V.Kh. Khavinson - the Vice President.

In 1997, at the XVI World Congress of the IAGG in Adelaide, the Gerontological Society of the Russian Academy of Sciences became a member of the International Association of Gerontology and Geriatrics (IAGG). Prof. V.N. Anisimov was elected a Member of the IAGG Council and of the European Region IAGG Council, and Prof. V.Kh. Khavinson was appointed his Deputy in these two Councils.

During the recent 13 years 44 Regional Departments of the Russian Gerontological Society were established, and the total number of Society members accounts for over 1500 persons, including 14 Members and 6 Associate Members of the Russian Academy of Medical Sciences, 190 Doctors and 290 Ph.D. specialists.

Among the main activities of the Gerontological Society of the Russian Academy of Sciences is

convening and participation in the organization of scientific conferences in gerontology and geriatrics. 195 events were held in 1994-2006, and the Institute actively participated in many of them.

In August 2000 the Institute was the host organization of the II European Congress on Biogerontology in St. Petersburg, which was organized in cooperation with the Biological Section of the European Region International Association of Gerontology and Geriatrics and Gerontological Society of the Russian Academy of Sciences. 350 leading specialists from 33 countries took part in the Congress.

In November 2002 the Institute and the Gerontological Society of the Russian Academy of Sciences organized and conducted the scientific conference «Priority Directions of Gerontology», which was devoted to the 10th anniversary of the Institute. In 2006 the two organizations conducted the conference «Prospects of Fundamental Gerontology».

IAGG-ER entrusted Gerontological Society of the Russian Academy of Medical Sciences and the Institute organization and holding the VI European Congress of the International Association of Gerontology and Geriatrics in St. Petersburg on July 5-8,



2007. This is undoubtedly a sign of universal recognition of the Russian gerontological science and of the leading role of St. Petersburg in this field.

The Institute supports regular publication of the following periodicals: «Herald of the Gerontological Society of the Russian Academy of Sciences» (since 1996) and the scientific journal «Advances in

Gerontology» (since 1997), with leading Russian and foreign gerontologists in its Editorial Board. Since 2001 this journal is indexed in Index Medicus/MEDLINE and is included into the List of Major Scientific Journals and Periodicals of the Highest Attestation Committee.



IAGG President Prof. G. Andrews, Vice President of the Gerontological Society of the Russian Academy of Sciences V.Kh. Khavinson, UN Focal Point on Ageing A.V. Sidorenko at the II European Congress on Biogerontology, St. Petersburg, 2000.



Director of the Italian National Center for Research on Ageing Prof. C. Franceschi, Director of the Netherlands Institute on Ageing D. Knook, Prof. V.Kh. Khavinson at the II European Congress on Biogerontology, St. Petersburg, 2000.



President of the Gerontological Society of the Russian Academy of Sciences Prof. V.N. Anisimov, Head of the UN Focal Point on Ageing Dr. A.V. Sidorenko, Head of the International Research Department, Academic Secretary of the Russian Gerontological Society O.N. Mikhailova, Ph.D., Prof. V.Kh. Khavinson, St. Petersburg, 2000.



Prof. V.N. Anisimov, President of the Fund «Science of Longevity» Acad. R.V. Petrov, Prof. V.Kh. Khavinson, St. Petersburg, 2000.



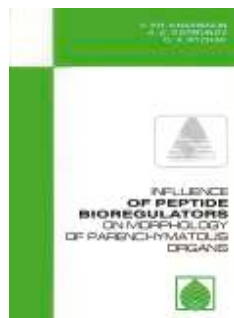
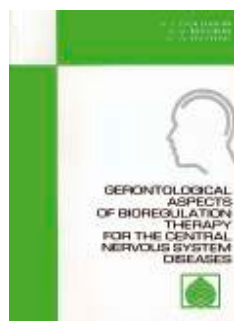
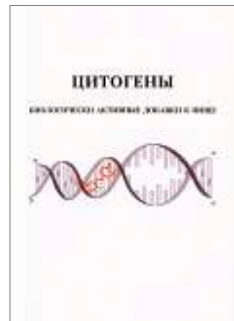
President of the IAGG -ER Prof. M. Passeri, Prof. V.Kh. Khavinson, St. Petersburg, 2000.



Russian participants of the IV European Gerontological Congress with the IAGG President Prof. G. Gutman in the middle, Berlin, Germany, 1999.

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53. Khavinson V.Kh., Malinin V.V. Gerontological aspects of genome peptide regulation // Basel (Switzerland): Karger AG, 2005. - 104 p.
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CONGRESSES, CONFERENCES, SYMPOSIA

1. Symposium «Cytomedins. Their Functions in the Organism. Application in the Clinical Practice». Leningrad, Tomsk, 1986.
2. Scientific Conference «The Role of Peptide Bioregulators (Cytomedins) in the Regulation of Homeostasis» Gerontological Aspects of Peptide Regulation of Organism Functions», November 1996, St. Petersburg;
3. Scientific Conference «Perspectives of Gerontological Research in Russia», May 14, 1998, St. Petersburg.
4. Symposium «Genetic Aspects of Ageing», November 2, 1998, St. Petersburg.
5. All-Russian Conference «Biological Age», December 5-6, 2000, Perm.
6. International Conference «Free Radical Processes and Antioxidants in the Development and Functions of the Nervous System: From Fetus to Ageing», April 18-20, 2001, St. Petersburg.
7. Conference «Actual Problems of Gerontology and Geriatrics», October 26, 2002, Yaroslavl.



8. Republican Scientific and Practical Conference «Problems of Gerontology and Geriatrics - 2002», July 1-2, 2002, Syktyvkar.
9. I Republican Scientific and Practical Conference «Gerontology: Its Place and Role in the Work on Medico-Social Problems of Elderly Citizens of Kabardino-Balkar Republic, the Solutions», July 25, 2002, Nalchik.
10. II Republican Scientific and Practical Conference «Actual Problems of Geriatrics in the Marii El Republic», October 17, 2002.
11. Siberian Scientific and Practical Conference «Problems of Old and Very Old Age Cardiology», November 14-15, Barnaul.
12. Scientific Conference «Priority Directions of Research in Gerontology», December 9, 2002, St. Petersburg.
13. «Ways and Forms of Cooperation Between Government and Non-Government Organizations in Providing Medico-Social Services to Older People», March 11-15, 2003, St. Petersburg.
14. International Gerontological Conference «Advances of Gerontology in Russia and the USA», April 23-25, 2003, Tula.
15. Russian Scientific and Practical Conference «Rehabilitation in Gerontology and Geriatrics. Gerontology and Geriatrics in the Family Medicine», May 13-15, 2003, Kursk.
16. Regional Scientific and Practical Conference «Actual Issues of Treatment and Medical Rehabilitation of War Veterans», October 15, 2003, Ryazan.
17. Russian-American Conference «Geriatric Assessment of a Patient», October 30, 2003, St. Petersburg.
18. Scientific and Practical Conference «Issues of Medical and Social Aid to Veterans of Wars, Military Conflicts, to Old and Very Old Persons», December 9-11, Ekaterinburg
19. »Priority Directions of Modern Gerontology», March 31, 2004, St. Petersburg.
20. Republican Scientific and Practical Conference «Gerontology - A Multidisciplinary Problem», April 28-29, 2004, Kazan.
21. I International French-Russian Conference «Patterns of Longevity, Ageing and Degradation in the Theory of Reliability, in Medicine and Biology», June 7-9, 2004, St. Petersburg.
22. Scientific and Practical Conference «Society, Government and Medicine - for Older and Disabled People», September 27-28, 2004, Moscow.
23. Symposium «Peculiarities of Pharmacotherapy for Older Patients», October 27, 2004, Moscow.
24. Interregional Scientific and Practical Conference «Problems of Gerontology and Neuroimmunology. Organization of Medical Aid to War Veterans», November 25, 2004, Chelyabinsk.
25. II Russian Symposium on Peptide Chemistry and Biology, St. Petersburg, 2005.
26. II International School of Gerontology and Geriatrics. St. Petersburg, 2005.
27. All-Russian Conference «Prospects of Fundamental Gerontology», St. Petersburg, 2006.
28. Scientific and Practical Conference «Social Adaptation, Support and Health of the Elderly in the Present-Day Society», St. Petersburg, 2006.
29. II International Congress «Human, Sport and Health», St. Petersburg, Russia.
30. International Congress «Social Adaptation, Support and Health of the Elderly in the Present-Day Society», St. Petersburg, 2007.
31. III International Congress «Human, Sport and Health», St. Petersburg, 2007.
32. IV International School of Gerontology and Geriatrics, St. Petersburg, 2007.
33. VI European Congress of the International Association of Gerontology and Geriatrics, St. Petersburg, 2007.

PARTICIPATION IN THE INTERNATIONAL MEETINGS, CONGRESSES, CONFERENCES, SEMINARS, EXHIBITIONS IN FOREIGN COUNTRIES

1. Scientific Conference «Genetics of Ageing», Cold Spring Harbor Laboratory, USA, 1998.
2. IV European Congress on Clinical Gerontology, Helsinki, Finland, 1998.
3. I European Congress on Biogerontology, Helsingore, Denmark, 1998.
4. Pan-American Congress of Gerontology and Geriatrics, San-Antonio, USA, 1999.
5. International School on Pathobiology of Ageing, Pisa, San Maniato, Italy, 1999.
6. IV European Congress of Gerontology, Berlin, Germany, 1999.
7. Symposium «Mechanisms of Ageing and Longevity», London, UK, 1999.
8. VIII Conference of the European Academy of Dermatology and Venerology, Amsterdam, The Netherlands, 1999.
9. International Exhibition and Conference on Chemical Technologies, Basel, Switzerland, 1999.
10. International Symposium on Occupational Health of Europeans, Helsinki, Finland, 1999.
11. III International Exhibition and Conference on Technology and Marketing of Food, Dietary and Medicinal Products «Vitafoods 2000», Geneva, Switzerland, 2000.

12. Conference «Immunology-2000», organized by the American Association for Immunology and the Immunological Society, Seattle, USA, 2000.
13. VI International Congress «Advances in Immunology and Allergology at the Threshold of the 21st Century», Eilat, Israel, 2000.
14. International Exhibition «Achema 2000», Frankfurt-am-Main, Germany, 2000.
15. XXVI International Congress on Occupational Medicine, Singapore, 2000.
16. II Ukrainian National Congress of Gerontology and Geriatrics, Kiev, Ukraine, 2000.
17. Video Conference on Ageing, organized by the US National Aerospace Administration, video conference with the USA, Germany, France, 2000.
18. III Ukrainian National Congress of Gerontology and Geriatrics, Kiev, Ukraine, 2000.
19. IV International Symposium «Biological Mechanisms of Ageing», Kharkov, Ukraine, 2000.
20. II International Peptide Symposium, 17th American Peptide Symposium, San-Diego, USA, 2001.
21. International Congress on Preventive Medicine, Vichy, France, 2001.
22. The Congress of the International Association of Biomedical Gerontology, Vancouver, Canada, 2001.
23. XVII International Association of Gerontology World Congress, Vancouver, Canada, 2001.
24. XXVI European Peptide Symposium, Montpellier, France, 2001.
25. International Symposium «Melatonin: Clinical Significance and Therapeutic Application», Polanitsa Zdroj, Poland, 2001.
26. IV International Symposium on Eye Pharmacology and Pharmaceutics, Seville, Spain, 2002.
27. Valencia Forum in the framework of the 2nd UN World Assembly on Ageing, Valencia, Spain, 2002.
28. International Short-Term Program on Geriatrics, organized by the UN International Institute on Ageing, Malta, 2002.
29. XXXV Panhellenic Congress of Ophthalmology, Chalkidiki, Greece, 2002.
30. IV Conference on Ageing and Labor «Supporting Labor Capacity and Working Ability», Krakow, Poland, 2002.
31. XVIII International Congress on Cancer, Oslo, Norway, 2002.
32. XXXV North European Congress of Ophthalmology, Tampere, Finland, 2002.
33. XXVII Symposium of the European Peptide Society, Sorrento, Italy, 2002.
34. VII Congress of the International Society of Ophthalmologic Toxicology, Lindau, Germany, 2002.
35. XV International Congress on Eye Research, Geneva, Switzerland, 2002.
36. I International Course «Stress Biomarkers and Labor Medicine», Copenhagen, Denmark, 2002.
37. III European Congress on Biogerontology, Florence, Italy, 2002.
38. I SERI-ARVO Conference on Vision Research and Ophthalmology, Singapore, 2003.
39. Cold Spring Harbor Conference, New York, USA, 2003.
40. XIV Congress of the European Society of Ophthalmology, Madrid, Spain, 2003.
41. VI European Congress of Microscopy, Pula, Croatia, 2003.
42. V European Congress of Gerontology, Barcelona, Spain, 2003.
43. Annual Conference of the American Association on Population, Boston, USA, 2004.
44. World High Technologies Association Biotechnology Forum, Dalian, China, 2004.
45. XXVII Panhellenic Congress of Ophthalmology, Thessaloniki, Greece, 2004.
46. XIII European Congress of Microscopy, Antwerp, Belgium, 2004.
47. XVI International Congress on Eye Research, Sidney, Australia, 2004.
48. III International and XXVIII European Peptide Symposium, Prague, Czech Republic, 2004.
49. International Symposium «Molecular Genetics of Ageing», Cold Spring Harbor, New York, USA, 2004.
50. International Seminar «Ecological Gerontology», Tashkent, Uzbekistan, 2004.
51. II SERI-ARVO Conference of Ophthalmology, Singapore, 2005.
52. XVIII Congress of the International Association of Gerontology, Rio-de-Janeiro, Brazil, 2005.
53. Conference of the International Neurochemical Society, Innsbruck, Austria, 2005.
54. Science, Technology and Biotechnology Cooperation Day, Vienna, Austria, 2005.
55. VI Congress of the International Society of Neuroimmunomodulation, Athens, Greece, 2005.
56. VI Australian Peptide Conference, Hamilton Island, Australia, 2005.
57. II International Course «Disablement and Early Retirement», Vidbeck, Denmark, 2005.
58. IV Ukrainian National Congress of Gerontology and Geriatrics, Kiev, Ukraine, 2005.
59. European Congress of Clinical Gerontology, Oostende, Belgium, 2006.
60. VI International Symposium on Eye Pharmacology and Therapy, Berlin, Germany, 2006.
61. XXI Congress of Asia-Pacific Academy of Ophthalmology, Singapore, 2006.
62. IV Bologna International Conference on Affective, Behavioral and Cognitive Disorders in the Elderly, Bologna, Italy, 2006.
63. European Conference on Population Studies, Liverpool, United Kingdom, 2006.
64. I European Neuroimmunology School for Young Scientists, Lille, France, 2006.
65. X Congress on Ophthalmologic Toxicology, Bonn, Germany, 2006.
66. V European Congress on Biogerontology, Istanbul, Turkey, 2006.
67. International Seminar «Death Rate in Former USSR. Fifteen Years After the Collapse: Changes or Continuation?», Kiev, Ukraine, 2006.
68. III International Scientific and Practical Conference «Chronobiology and Chronomedicine: Theoretical and Clinical Perspectives», Chernovitsy, Ukraine, 2006.
69. II Shanghai International Conference on Physiological Biophysics - Audition and Vision, Shanghai, China, 2006.

