

Centre for Physiology and Biochemical Research (CPBR)
The Russian Society for BioPsychiatry (RSBP)
Ukrainian Society for Biological Psychiatry (USBP)
Institute of Experimental Medicine (IEM RAMS)

Pre-final Program

12-th Multidisciplinary International
Neuroscience and Biological Psychiatry
Conference "Stress and Behavior"

St-Petersburg, Russia
May 16-20, 2009

Welcoming Address from the Conference Chair

Dear Colleagues,

I am delighted to welcome you to the 12th annual "Stress and Behavior" Conference. It is truly exciting to foster an environment in which we can collaborate and inspire innovative research.

The idea of Systems-based Biology and Medicine is beginning to be a reality. Indeed, the idea that research can translate to predictive, personalized, preventive, and participatory health care is quite awe inspiring. The remarkable advances in experimental neuroscience and the development of new molecular techniques are helping to bring substance to the idea of Systems based medicine.

Modern advances in the field of experimental neuroscience are enabling for novel experimental paradigms. We can now target specific areas of interest with an increasing level of precision and detail. The integration of multiple scientific fields (genetics, molecular biology, nanotechnology, neuroscience, psychiatry) is allowing us to begin to understand the complexities of human behavior. Our ability to classify information into biological networks which capture, transmit, integrate, dispense, and execute biological information will serve as a functional foundation for a systems based approach.

Within this context a combination of elements (genes, proteins, etc), which are measurable and quantifiable, serve as the framework of each network. The dynamic interactions between each element are the edges of the network. Elements and their interactions are affected by the context of other systems within the organism. Interactions between and among the different elements of the network give rise to the emergent properties inherent in the system. Understanding and classifying individuals based on this type of a dynamic network of elements which includes genetic and environmental factors represents the next frontier for scientific advancement.

While our conference's primary aim is to inspire collaborative research and provide an environment for new ideas to thrive, it is also our hope that you will take some time to enjoy the attractions that make the city of St. Petersburg so unique. The timing of our conference is ideal in this respect as it is during the "White Nights 2009" festival with many exciting events planned.

I am confident that the 2009 "Stress and Behavior" Conference will be our best yet, promoting an environment of collegial interaction and collaboration that will collectively facilitate progressive, multidisciplinary research projects. The ideas shared and developed as a result of this conference will help to expand our knowledge of the complex nature of human behavior and help to develop treatments for stress-induced brain pathogenesis.

Allan V. Kalueff, PhD, PhD

Welcoming Address from the Conference Program Committee Chair

Dear Colleagues!

I am happy to be greeting you once again at the opening of the 12th annual "Stress and Behavior" Conference. We begin this Conference, for the 12th time, in the wake of a severe global financial crisis. How we response in the upcoming years will impact the future of science on the whole. This makes our annual meeting even more valuable as now more than ever is the time to exchange ideas and collaborate with colleagues to better the state of science. We can also assume that stress will continue to be a constant in many people's lives during this challenging time period. As a result the practical application of our work will be increasingly necessary.

We are honored to welcome scientists from all parts of the world whose research spans many interrelated braches yet stems from a central foundation - The Physiology of Behavior. A multidisciplinary conference such as this one is a great opportunity to look at our studies from different vantage points to enrich our understanding of the complex nature of brain function.

Last year our new initiative of organizing a Summer School program on the Psychogenetic of Stress was rather successful. Based on our success we have elected to continue this program. After the Conference we are excited to see young scientists gather in Riga - the beautiful, old capital of Latvia.

It has become a good tradition of our meetings to devote a part of the time in Saint-Petersburg to exploring its scientific history and cultural heritage. It will be my pleasure to welcome you at the Pavlov Department of Physiology in the Institute for Experimental Medicine where Ivan Pavlov started his glorious career.

There will be ample opportunity to visit the museums, theatres, and wonderful rich palaces of Russian emperors located around the city. You will be able to enjoy the beauty of famous White Nights with its high, open bridges over the Neva River.

As I do every year, I want to express my sincere hope that this conference inspires your research and that you enjoy your time in St. Petersburg

Victor M. Klimenko, MD, PhD

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Conference Pre-final Program

Day 1, May 16, 2009

Morning session

Opening Ceremony

Welcoming Addresses

Plenary lecture 1. ZEBRAFISH (*DANIO RERIO*) IN NEUROBEHAVIORAL RESEARCH: NEW MODELS, NEW APPLICATIONS, NEW CHALLENGES. A Kalueff, Pharmacology Dept., Tulane University Medical School, New Orleans, USA

Coffee break

Symposium 1. Serotonin transporter and the brain

Chairs: J Homberg (Netherlands), A Kalueff (USA)

UNDERSTANDING SEROTON-MEDIATED NEURODEVELOPMENTAL CHANGES IN THE BRAIN'S EMOTIONAL-COGNITIVE SYSTEM USING RATS LACKING THE SEROTONIN TRANSPORTER. J Homberg. Donders Institute for Brain, Cognition and Behavior, Centre for Neuroscience, Radboud University Nijmegen Medical Centre, Department of Cognitive Neuroscience, Molecular Neurobiology Group, Nijmegen, The Netherlands

WISTAR-ZAGREB 5HT RATS: A RODENT MODEL WITH CONSTITUTIONAL UPREGULATION/DOWNREGULATION OF SEROTONIN TRANSPORTER. B Jernej, L Cicin-Sain, Rudjer Boskovic Institute, Zagreb, Croatia

RISK, RESILIENCE, AND GENE X ENVIRONMENT INTERACTIONS IN RHESUS MONKEYS. S Suomi, Laboratory of Comparative Ethology, National Institute of Child Health and Human Development, NIH, Bethesda, MD, USA

BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF) DEFICIENT MICE: A MODEL OF PREDISPOSITION TO DEPRESSION. J Hensler, L Daws, W Koek, University of Texas Health Science Center, San Antonio, Texas, USA

Afternoon session

Lunch break

PLENARY LECTURE 2. THE IMPORTANCE OF THE ENERGY PARAMETER IN BEHAVIORAL PHARMACOLOGY. L Bachdasarian, R Bulthuis, Metris B.V. Hoofddorp, The Netherlands

PLENARY LECTURE 3. SYNERGISTIC EFFECT OF DRUG ADMINISTRATION AND BEHAVIOR TRAINING ON SOCIAL DEVELOPMENTAL DEFICIT THROUGH SENSITIVE PERIOD. S Nakamura, D Mochizuki, T Okuya, A Senoh, K Shimizu, Y Sugiura, M Koshiba, Tokyo University of Agriculture and Technology, Tokyo, Japan

Coffee break

Symposium 2. Translational neuroscience I

Chairs: A Kalueff (USA), M Koshiba (Japan)

ACUTE AND LONG-TERM EFFECTS OF CHRONIC SOCIAL STRESS AND AGING ON COGNITION: INVOLVEMENT OF NOVEL SYNAPTIC CELL ADHESION MOLECULES. M Wolf, X Wang, S Scharf, C Liebl, F Holsboer, M Müller, M Schmidt, Max Planck Institute of Psychiatry, Munich, Germany

STRESS AND EXPERIMENTAL INTRACEREBRAL HEMORRHAGE: CHANGE BIOGENIC AMINES IN THE BRAIN CORTEX IN THE RATS WITH VARIOUS EMOTIONAL RESISTANCE. E Koplík, V Krilin, N Ivannikova, Anokhin Institute of Normal Physiology RAMS; Cardiology Science Center RAMS, Moscow, Russia

EFFECTIVENESS OF THE HOMEOPATHIC PREPARATION NEUREXAN® COMPARED WITH COMMONLY USED VALERIAN-BASED PREPARATIONS FOR THE TREATMENT OF NERVOUSNESS/RESTLESSNESS. R Hübner, Rvan Haselen, P Klein, Westring, Landau Germany; Biologische Heilmittel Heel GmbH, Baden-Baden, Germany; D.S.H. Statistical Services, Rohrbach, Germany

THE INFLUENCE OF RISPOLENT (RISPERIDONE) ON THE BRAIN DOPAMINE SYSTEM IN RATS. A Hramenkova, V Kuzik, D Makina, I Morina, E Araustakesyan, G Mazo, M Ivanov, G Oganessian, Sechenov Institute of Evolutionary Physiology and Biochemistry, Bekhterev Research Institute, St. Petersburg, Russia.

ZEBRAFISH MODELS OF ANXIETY AND DEPRESSION AND ANTIDEPRESSANT ACTION. R Egan, C Bergner, J Cachat, P Canavello, P Hart, H Amri, E Glasgow, Z Zukowska, A Kalueff. Department of Physiology and Biophysics, Georgetown University Medical Center, Washington, DC; Pharmacology Department, Tulane University Medical School, New Orleans LA, USA

Day 2, May 17, 2009
Morning session

PLENARY LECTURE 4. IMAGING STUDIES OF SEROTONIN SYNTHESIS WITH LABELLED A-METHYL-L-TRYPTOPHAN IN RAT MODELS OF DEPRESSION AND HUMANS SUFFERING FROM AFFECTIVE DISORDERS. M Diksic. Department of Neurology and Neurosurgery, McGill University, Montreal, QC, Canada; Faculty of Medicine, J.J. Strossmayer University, Osijek, Croatia

PLENARY LECTURE 5. NOLDUS VIDEOTRACKING SYSTEMS.

Coffee Break

Symposium 4. Cocaine and reward

Chair: R Gainetdinov (Italy)

THE ROLE OF GPCR REGULATORY MACHINERY IN COCAINE ACTIONS. R Gainetdinov, Department of Neuroscience and Brain Technologies, Italian Institute of Technology, Genova, Italy; Department of Cell Biology, Duke University, Durham, NC, USA

ACCUMBAL DOPAMINE CHANGES CORRELATED WITH COCAINE- AND STRESS-INDUCED BEHAVIORS. E Budygin, Wake Forest University School of Medicine, Winston-Salem, NC, USA

DOPAMINE TRANSIENTS IN THE NUCLEUS ACCUMBENS DURING COCAINE SELF ADMINISTRATION. R Wightman, Department of Chemistry and Neuroscience Center, University of North Carolina, Chapel Hill, NC, USA

STRESS AND COCAINE INTERACT TO MODULATE BRAIN DERIVED NEUROTROPHIC FACTOR EXPRESSION AND SIGNALING. F Fumagalli, Center of Neuropharmacology, Department of Pharmacological Sciences, University of Milan, Italy

Lunch break

Afternoon session

PLENARY LECTURE 6. FACTORS OF REPRODUCIBILITY OF ANHEDONIA INDUCTION IN A CHRONIC STRESS DEPRESSION MODEL IN MICE. T Strekalova, HW Steinbusch, Department of Neuroscience, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, The Netherlands

Symposium 5. Translational neuroscience II

Chair: T Strekalova (Netherlands)

A NEW QUANTITATIVE TRANSLATION SYSTEM OF PSYCHIATRIC CONDITION BASED ON BEHAVIOR MARKER ANALYSIS FROM SOCIAL DEVELOPMENT MODEL

M Koshihara, K Mimura, T Okuya, A Senoh, K Shimizu, Y Sugiura, D Mochizuki, Y Shirakawa, S Fukasawa, T Ogino, I Aoki, I Kanno, S Nakamura, Tokyo University of Agriculture and Technology, Tokyo; National Institute of Radiological Sciences, Chiba, Japan

INVOLVEMENT OF SUPERIOR COLLICULUS IN SELECTING BEHAVIORAL RESPONSES IN RATS WHILE IN A CONFLICTING AND STRESSFUL CONTEXT. E Comoli, P Mercez, University of São Paulo, São Paulo, Brazil

FEMALES ARE MORE SENSITIVE TO STRESS THAN MALES. D Avgustinovich, I Kovalenko, Institute of Cytology and Genetics SD RAS, Novosibirsk, Russia.

Coffee Break

EFFECT OF PREVENTIVE CHRONIC ADMINISTRATION OF BUSPIRONE ON ANXIETY AND DEPRESSIVE-LIKE BEHAVIOR INDUCED BY LONG-LASTING PSYCHOEMOTIONAL STRESS IN C57BL/6J FEMALE MICE. G Vishnivetskaya, D Avgustinovich, Institute of Cytology and Genetics SD RAS, Novosibirsk, Russia

VASOPRESSIN PREVENTS THE DEVELOPMENT OF MOTOR AND EMOTIONAL DISORDERS IN POSTERITY OF FEMALE RATS WITH PSYCHOGENIC TRAUMA. S Tsikunov, T Avaliani, N Apraksina, O Fedotova, Institute for Experimental Medicine RAMS, St. Petersburg, Russia

MANGANESE-ENHANCED MRI REVEALS THE ALTERED ACTIVITY OF HYPOTHALAMIC NUCLEI AND HIPPOCAMPUS OF MOUSE IN RESPONSE TO FORMALIN AND KETAMINE ADMINISTRATION. B Lei, J Chen, H Yin, Department of Anatomy and Cell Biology, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, ROC

ACTIVITY OF CALPAIN SYSTEM IN NERVOUS AND IMMUNE CELLS IN MODEL OF MULTIPLE SCLEROSIS. M Karpenko, I Abdurasulova, V Klimenko, Institute for Experimental Medicine RAMS, St. Petersburg, Russia

Day 3, May 18, 2009
Morning session

PLENARY LECTURE 7. ACTIVATION OF IMMUNE SYSTEM IN EARLY ONTOGENESIS IMPAIRS THE FORMATION OF COGNITIVE FUNCTIONS. V Klimenko, Institute for Experimental Medicine RAMS, St. Petersburg, Russia

PLENARY LECTURE 8. CURRENT ASPECTS OF EARLY ALCOHOLISM IN RUSSIA. A Egorov, Sechenov Institute of Evolutionary Physiology and Biochemistry RAS, St. Petersburg State University, St. Petersburg, Russia

Symposium 6. Alcoholism

Chair: A Egorov (Russia)

THE INFLUENCE OF SOCIAL INTERACTIONS ON THE DEVELOPMENT OF ALCOHOLISM IN RATS. A Egorov, T Filatova, T Shnitko, A Afanas'ev, Sechenov Institute of Evolutionary Physiology and Biochemistry RAS, St. Petersburg State University, St. Petersburg, Russia

IGF-I EXPRESSION AND MORPHOMETRY OF CEREBELAR CORTEX OF RATS UChA AND UChB (VOLUNTARY ETHANOL DRINKERS) SUBMITTED TO MATERNAL SEPARATION. M Martinez, S Oliveira, M Stefanini, V Quitete, P Pinheiro, W Mello-Júnior, C Almeida-Francia, F Martinez, Federal University of São Carlos/SP, UNESP/SP, UNICAMP/SP, Brazil

EXPERIMENTAL STUDY OF ALCOHOL INFLUENCE ON BIOLOGICAL EFFECTS OF ANTIDEPRESSANTS. E Kutcher, M Shevchuk, A Petrov, Department of Psychiatry and Addictions, Medical Faculty, St. Petersburg State University; Institute of Evolutionary Physiology and Biochemistry RAS; FSRF Institute of Toxicology FMBAR, St. Petersburg, Russia

Lunch break

Afternoon session

Symposium 7. Genetic factors in biological psychiatry

Chair: S. Nakamura (Japan)

ASSOCIATION BETWEEN eNOS 4a/b POLYMORPHISM AND NITRIC OXIDE LEVELS IN TYPE 2 DIABETIC POLYNEUROPATHY. M Aydin, E Ozkok, C Kucukali, F Salman, I Kara, Istanbul University, Institute for Experimental Medicine, Department of Neuroscience, Department of Immunology; Istanbul Erenkoy Psychiatric and Neurological Disorders Hospital, Istanbul, Turkey

DISC1 AND GABAERGIC EXPRESSION IN HIPPOCAMPUS OF NEUREGULIN1 MUTANT MOUSE. H Yin, P Chen, C Liu, H Hwu, W Fu, Departments of Anatomy and Cell Biology, Psychiatry, and Pharmacology, College of Medicine, National Taiwan University, Taipei, Taiwan, ROC

EXAMINING THE RELATIONSHIP BETWEEN MnSOD AND NFkB POLYMORPHISMS IN PARKINSON'S DISEASE. E Ozkok, M Aydin, C Kucukali, Y Cetinkaya, M Gencer, I Kara, Istanbul University, Institute for Experimental Medicine, Department of Neuroscience; Istanbul Erenkoy Psychiatric and Neurological Disorders Hospital; Clinic of Neurology, Haydarpasa Numune Education and Research Hospital, Istanbul, Turkey

THE ROLE OF INFERIOR COLLICULUS IN AUDIOGENIC SEIZURES IN OUTBRED KRUSHINSKII-MOLODKINA RATS. K Khudik, Institute of Evolutionary Physiology and Biochemistry RAS, St.-Petersburg, Russia

MATERNAL/CHILD GENETIC POLYMORPHISM AS A SCHIZOPHRENIA RISK FACTOR. I Halayenka, V Objedkov, O Levdansky, E Aksyonova, M Siniauskaya, N Danilenko, Laboratory of Cytoplasmic Inheritance, Institute of Genetics and Cytology, Minsk, Belarus

Coffee Break

PLENARY LECTURE 9. PRESENTATION: TSE SYSTEMS: SOPHISTICATED LIFE SCIENCE RESEARCH INSTRUMENTATION.

Symposium 8. Molecular Physiology of Stress I

Chair: Yu.F. Pastuhov (Russia)

EVALUATION OF LITHIUM DETERMINATION IN THREE ANALYZERS: FES, AAS, & ISE. A Mehri, H Hamid, Food and Drug Control Research Laboratories of Iran; Iran University Medical School, Tehran, Iran

EFFECTS OF INDUCIBLE AND CONSTITUTIVE ISOFORMS OF HEAT SHOCK PROTEIN 70 ON THERMOREGULATORY CHARACTERISTICS IN PIGEONS. K Lapshina, K Khudik, Sechenov Institute of Evolutionary Physiology and Biochemistry RAS, St. Petersburg, Russia

THE ROLE OF THE HSP70 IN THE REGULATION OF MOTOR SEIZURES. A Yakimchuk, L Nitsinskaya, I Ekimova, I Guzhova, Sechenov Institute of Evolutionary Physiology and Biochemistry RAS, St. Petersburg, Russia

THE EFFECTS OF INTRACEREBROVENTRICULAR ADMINISTRATION OF MYRISTICA FRAGRANS SEED EXTRACT ON FEAR BEHAVIOR IN ADULT MALE RATS. G Vaezi, K Keramati, M Dadellahi. Biology Department, Islamic Azad University, Garmsar, Damghan, Semnan, Iran

Day 4, May 19, 2009
Morning session

PLENARY LECTURE 10. COMPLEX, NATURAL, AND STEREOTYPIC BEHAVIORS, BEHAVIOR RECOGNITION AND TRANSLATIONAL RESEARCH. Y Liang, Clever Sys., Inc., Reston, VA, USA

Coffee Break

Symposium 9. Molecular Physiology of Stress II

Chair: V Klimenko (Russia)

INTERLEUKIN-1 β IN SYSTEM MECHANISMS OF THE STRESS RESPONSE IN RATS. S Pertsov, Anokhin Institute of Normal Physiology RAMS, Moscow, Russia

AROMATASE IMMUNOREACTIVITY IN THE YOUNG PACIFIC SALMON BRAIN ONCORHYNCHUS MASU: IMMUNOLocalISATION AND COREGIONALIZATION WITH NADPH-DIAPHORASE AND TYROSINE HYDROXYLASE. E Pushchina, D Obukhov. Zhirmunsky Institute of Marine Biology FAR RAS, Vladivostok; Department Cytology and Histology, St. Petersburg State University, St. Petersburg, Russia

NEUROIMMUNOLOGY SHOWING NEONATAL HYPOXIC ENCEPHALOPHY AND NEURO-BEHAVIORAL OUTCOME. V Garayev, V Klimenko, N Shabalov, Institute for Experimental Medicine RAMS; Kirov Military Medical Academy, St. Petersburg, Russia

MOLECULAR MECHANISM OF SYNUCLEOPATHIES: A HYPOTHESIS. Y Pastukhov, A Chesnokova, Sechenov Institute of Evolutionary Physiology and Biochemistry RAS, St. Petersburg, Russia

CALPAIN INHIBITORS AS A NEW APPROACH TO MULTIPLE SCLEROSIS THERAPY. P Afanasyev, M Karpenko, I Abdurasulova, V Klimenko, Institute for Experimental Medicine RAMS, St. Petersburg, Russia

ANXIOLYTIC EFFECTS OF THERMAL PRECONDITIONING AND THE CONCENTRATION OF INDUCIBLE HSP70 IN THE BRAIN OF KRUSHINSKY-MOLODKINA RATS. M Chernyshev, K Khudik, O Sapach, Y Pastukhov, Sechenov Institute of Evolutionary Physiology and Biochemistry RAS, St. Petersburg, Russia

CENTRAL MECHANISMS OF THE HEAT SHOCK PROTEIN 70 KDA HYPNOSEDATIVE EFFECT: ROLE OF PROSTAGLANDIN D₂ AND GABA SYSTEM. I Ekimova, N Frolova, Institute of Evolutionary Physiology and Biochemistry RAS, St. Petersburg, Russia

Lunch break

Afternoon session

Symposium 10. Clinical problems in biological psychiatry

Chair: A.V. Kalueff (USA)

BIOPSYCHOSOCIAL ASPECTS OF BEHAVIOR AND MOOD IN ANTARCTICA. S Khandelwal, Dept. of Psychiatry, All India Institute of Medical Sciences, New Delhi, India

MR SPECTROSCOPY OF INTRACRANIAL TUMORS. D Kozić, J Ostojić, N Boškov, K Koprivšek, Institute of Oncology, Diagnostic Imaging Center, Sremska Kamenica; General Hospital, Zrenjanin, Serbia

ENHANCEMENT OF THE EFFICACY OF CANCER CHEMOTHERAPY BY THE PINEAL HORMONE MELATONIN AND ITS RELATION WITH THE PSYCHOSPIRITUAL STATUS OF CANCER PATIENTS. G Messina, P Lissoni, P Marchiori, University of Milan, Institute of Biological Medicine, Milan, Italy

DAILY SERUM AND SALIVA BDNF LEVELS CORRELATE WITH MORNING–EVENING PERSONALITY TYPE IN WOMEN AND ARE AFFECTED BY LIGHT THERAPY. P Tirassa, M Mazza, F Sornelli, A Iannitelli, G Bersani, F Pacitti, Institute of Neurobiology and Molecular Medicine-CNR, Rome; Dept. of Psychiatric Sciences and Psychological Medicine, Sapienza University of Rome, Polo Pontino; Dept. of Science of Health, University of L'Aquila, L'Aquila, Italy

DO LATERAL PREFERENCES INFLUENCE THE BODY SCHEMA PERCEPTION? M Mikheev, A Zartor, S Afanasiev. Sechenov Institute of Evolutionary Physiology and Biochemistry, St. Petersburg, Russia

ACTIVE COPING STYLE AS A PREDICTOR OF REACTIVE DEPRESSION. D Zhukov, K Vinogradova, Pavlov Institute of Physiology RAS, Biological Faculty, St. Petersburg State University, St. Petersburg, Russia

AMPLITUDE OF HEART RATE MODULATION WITH THE PERIOD OF 3 CARDIOCYCLES DEPENDS ON THE PHYSIOLOGICAL AROUSAL OF BRAIN. V Mukhin, Institute of Experimental Medicine, St. Petersburg, Russia

STRESS-PHASE ORIENTED CONCEPT OF BORDERLINE DISORDERS. A Tadevosyan, S Harutyunyan, National Institute of Health, Department of Stressology, Yerevan, Armenia

Coffee break

Official Closing Ceremony

Day 5, May 20, 2009

Meetings of RSBS, USBP and ISBS

Visit to Pavlov Department of Physiology of the Institute of Experimental Medicine