

**Program**

**International Symposium**

**Immune System of the Brain:  
Neurochemical and Neuroendocrine Aspects**

**Dedicated to the 80<sup>th</sup> Anniversary of Academician Armen GALOYAN**

**October 6 - 8, 2009  
Yerevan  
Republic of Armenia**

**Tuesday, October 6, 2009**

**9:30 – 10:00 Registration in the Entrance Hall of the Presidium of the NAS RA**

**10:00 – 11:00 Welcome and opening ceremony  
Martirosyan R.A., Academician, the President of the NAS RA,  
Chairman of the Organizing Committee**

**Haroutunian S.G., Prof., Chairman of the State Committee on  
Science at Ministry of Education and Science of RA**

**Hakopyan V.P., Academician-Secretary of the Natural Sciences Division,  
NAS RA, Co-Chairman**

**Lajtha A., Prof., Foreign member of NAS RA,  
Director of Neurochemical Center, New York, USA**

**Kevorkian G.A., Professor, Dr. Biol. Sci.,  
Director of H.Buniatian Institute of Biochemistry, NAS RA,  
Co-Chairman**

**Mkrtchyan L.N., Professor, Dr. Biol. Sci.,  
President of the Academy of Medical Sciences of Armenia**

**Tribute to Academician A.A. Galoyan**

*Srapionian R.M., Professor, Dr. Biol. Sci.,  
H. Buniatian Institute of Biochemistry, NAS RA*

**“Academician A. Galoyan – creative and innovative scientist”**

## **Plenary Presentations**

### **The Immune System of the Brain, and Neurotransmitters**

#### **Session 1**

**Chairmen: Hakopyan V.P. (Armenia), Lajtha A. (USA),  
Besedovsky H. (Germany), Galoyan A.A (Armenia)**

**11:00 – 11:15 Transmitters in reward mechanisms  
Abel Lajtha (USA)**

**11:15 – 11:30 The immune system can take the command of homeostasis  
Hugo Besedovsky (Germany)**

- 11:30 – 11:45**      Developing brain as a multipotent endocrine organ: paradox or reality?  
**Michail Ugryumov (Russia)**
- 11:45 – 12:00**      Modulation of functional activity of ion channels and ionotropic receptors  
**Evgenii Grishin (Russia)**
- 12:00 – 12:30**      *Coffee break*

### Session 2

**Chairmen: Jessop D. (USA), Ugryumov M.V. (Russia), Aroutiounian R.M. (Armenia),  
Barkhudaryan N.H. (Armenia)**

- 12:30 - 12:45**      Interleukin 7 in the life and death of T cells  
**Durum Scott (USA)**
- 12:45 – 13:00**      Differential central and peripheral cytokine expression and HPA axis  
activation in response to LPS  
**David Jessop (UK)**
- 13:00 – 13:15**      Toxicogenetics in peptide research  
**Ruben Aroutiounian (Armenia)**
- 13:15 – 13:30**      Hemorphins act as homeostatic agents in response to endotoxin-induced  
stress  
**Nina Barkhudaryan (Armenia)**
- 13:30 – 14:30**      *Lunch*

### Session 3

**Chairmen: Durum S. (USA), Ostrovsky M. A. (Russia), Weller R. (USA),  
Miroshnikov A.I. (Russia)**

- 14:30 – 14:45**      Cardioactive protein-hormonal complexes of brain and heart  
**Rima Srapionian (Armenia)**
- 14:45 – 15:00**      Proline-rich hypothalamic polypeptide has opposite effects on the  
proliferation of human bone marrow stromal cells and human giant-cell  
tumor stromal cells  
**Ruben Chailakhyan (Russia)**

- 15:00 – 15:15** Antitumorigenic effect of brain proline-rich polypeptide-1 in human chondrosarcoma  
**Karina Galoian (USA)**
- 15:15 – 15:30** HIV-1 integrase and DNA ends: complex formation and perturbation by inhibitors of integration  
**Serge Femandjian (France)**
- 15:30** Closing remarks
- Evening* *Social event*

**Wednesday, October 7, 2009**

**Session 4**

**Chairmen: Kvamme E. (Norway), Hamprecht B. (Germany),  
Paulin D. (France), Banik N.L. (USA)**

- 9:30 – 9:45** Kinetics of a novel isoform of phosphate-activated glutaminase (PAG) in SH-SY5Y neuroblastoma cells  
**Bjørg Roberg (Norway)**
- 9:45 – 10:00** The immune status-dependent production of the regeneration-supporting hormone erythropoietin and glutamine synthetase in mutant mouse skin keratinocytes  
**Gayane Buniatian (Germany)**
- 10:00 – 10:15** Neurochemistry of cultured ependymal cells  
**Bernd Hamprecht (Germany)**
- 10:15 – 10:30** Is spinal cord a relevant piece in the parkinsonian puzzle?  
**Naren Banik (USA)**
- 10:30 – 10:45** New approach in bioprevention of cancer  
**Mkrtchyan Levon (Armenia)**
- 10:45 – 11:00** SYNEMIN isoforms in peripheric and central nervous systems  
**Araksya Izmiryan (France)**

**11:00 – 11:15** Immune response and apoptosis in pathogenesis of mental disorders  
**Anna Boyadjan (Armenia)**

**11:15 - 11:45** *Coffee break*

**Session 5**

**Presented by the section “Нейрохимия” – “Neurochemical Journal”,  
a Journal of RAS and NAS RA**

**Neurobiochemical mechanisms of the nervous system:  
organization and pathology**

**Chairmen: Grishin E.V. (Russia), Krasavin E.A. (Russia), Aghajanov M.I. (Armenia)  
Buniatian G.H. (Germany)**

**11:45 – 12:00** Photo- and neurochemistry of vision  
**Michael Ostrovsky (Russia)**

**12:00 – 12:15** The problem of GCR action on the central nervous system during long-term  
space mission  
**Evgeny Krasavin (Russia)**

**12:15 - 12:30** Role of chaperones blocked irreversibly by misfolded proteins in the induction  
of conformational neurodegenerative diseases  
**Vladimir Muronetz (Russia)**

**12:30 – 12:45** Neurological diseases, protein aggregates and chaperones: models and  
technologies for proving anti-degeneration drug efficacies  
**Boris Margulis (Russia)**

**12:45 – 13:00** Mechanisms of Hsp70 chaperone-mediated inhibition of insoluble protein  
aggregates in a model of Huntington disease  
**Irina Guzhova (Russia)**

*Concluding remarks*

**13:00 – 14:00** *Lunch*

## Session 6

### **Multiple effects of hypothalamic proline-rich peptides in biological systems**

**Chairmen: Chailakhyan R. K. (Russia), Kevorkian G.A. (Armenia),  
Galoyan A.A. (Armenia)**

- 14:00 – 14:15** Protective action of PRP-1 on the model of Alzheimer’s disease induced by amyloid peptides 25-35 and 1-42  
**Vergine Chavushyan (Armenia)**
- 14:15 - 14:30** Modulatory role of PRP on behaviour and neuroactive amino acids in beta-amyloid-induced neurodegeneration”.  
**Michael Aghajanov (Armenia)**
- 14:30 – 14:45** Mechanisms of spinal cord neurodegeneration in experimental parkinsonism. Dose-dependent properties of proline-rich peptides  
**Varduhi Knaryan (Armenia)**
- 14:45 – 15:00** Antioxidant and electron donating function of hypothalamic polypeptides: galarmin and Gx-NH<sub>2</sub>  
**Levon Tavadyan (Armenia)**
- 15:00 – 15:15** Hypothalamic proline-rich polypeptide regulates hematopoiesis  
**Tigran Davtyan (Armenia)**
- 15:15 – 15:30** Improvement of peripheral nerve repair functional outcome using hypothalamic proline-rich neuropeptide PRP-1  
**David Abrahamyan (Armenia)**
- 16:00** Brain immune system symposium closing remarks

Social program / Visiting tour to Echmiadzin

Holy Echmiadzin is the spiritual center of the Armenians all over the world. It is situated at the Ararat Valley, which is one of the most picturesque places at the foothills of biblical mountain Ararat. Over 1700 years ago in 301 AD Christianity was declared the state religion in Armenia, thus being accepted officially for the first time. The Echmiadzin Cathedral was founded to commemorate this event. Since that time it has been the seat of the Armenian Catholicoses.

**Thursday, October 8, 2009**

**Session 7            ISN supported Young Scientists' Session**

**Chairmen: Hamprecht B. (Germany), Kevorkian G.A. (Armenia), Knaryan V.A. (Armenia)**

- 9:30 – 9:45**        Brain-derived proline-rich peptide has anti-ischemic/apoptotic abilities in vitro and in vivo  
**Kristina Danielyan (Armenia)**
- 9:45 – 10:00**        The dynamics of rat liver and brain mitochondrial ultrastructural changes at the Crush syndrome and its correction by PRP  
**Gohar Karapetyan (Armenia)**
- 10:00 – 10:15**        Effect of PRP-1 on the regulation of carbohydrate-phosphate metabolism in rat bone marrow and spleen under pharmacological sympathectomy  
**Luiza Yerosyan (Armenia)**
- 10:15 – 10:30**        The possible regulatory role of hypothalamic proline-rich polypeptide (PRP) on energy metabolism  
**Anahit Margaryan (Armenia)**
- 10:30 – 10:45**        Estimation of antimutagenic activity of proline-rich polypeptide by the comet-assay in human leukocytes  
**Kristine Margaryan (Armenia)**
- 10:45 – 11:00**        The influence of hippocampus stimulation in neuronal activity of the respiratory centre upon hypoxia condition  
**Rubina Harutyunyan (Armenia)**
- 11:00 – 11:15**        Influence of external noise on single ion channels  
**Gor Hayrapetyan (Armenia)**
- 11:15 - 11:45**        *Coffee break*
- 11:45 – 12:00**        Intranasal delivery of eukaryotic cells to the brain  
**Lusine Danielyan (Germany)**
- 12:00 – 12:15**        Proliferation of cells in rat brain during experimental epilepsy  
**Viktor Aniol (Russia)**

- 12:15 – 12:30** Participation of glial cells in brain response to chronic stress  
**Anna Tishkina (Russia)**
- 12:30 – 12:45** The estimation and comparison of cerebrolysin and tanakan prolonged effects on lipid peroxidation processes in different brain regions under hypokinetic stress conditions  
**Amalya Hovhannisyan (Germany)**
- 12:45 – 13:00** Influence of affective symptoms on quality of life in patients with Parkinson's disease  
**Zaruhi Tavadyan (Armenia)**
- 13:15 – 13:30** Sleep disorders and immunity: an overview  
**Samson Khachatryan (Armenia)**
- 13:30 – 14:30** *Lunch*
- 14:30** Social program /  
Garni fortress (3<sup>rd</sup> century BC) with a pagan temple of Hellenistic period (1<sup>st</sup> century AD) devoted to Mithra, God of Sun.  
Geghard monastery made of a rock. It was founded in the 4<sup>th</sup> century AD; the present architectural complex is going back to the 13<sup>th</sup> century.

Poster Presentations during the entire meeting, i.e., October 6 to 8, 2009 in the  
NAS RA vestibule