

# IN MEMORIAM

ARMEN A. GALOYAN  
1929–2012

Armen A. Galoyan, President of the Armenian Association of Biochemists (AAB), Academician of National Academy of Sciences of RA, member of the Medical Academy of RA, Editor-in-Chief of the journal

"Neurochemistry" (issue of Russian Acad. Sci. and Armenian Nat. Acad. Sci.) died on 4th October 2012. He was Head of a joint Laboratory on Neurohormones Biochemistry (Institute of Biochemistry of NAS RA and A. Bach Institute of Biochemistry of RAS), and Scientific Councillor to the Institute of Biochemistry of NAS RA and Chairman of the Institute Scientific Council.



Acad. A. Galoyan was born in 1929 in v. Small Parni (currently v. Anushavan of the Shirak region of RA) and graduated from the Yerevan Medical Institute in 1953. He received his Candidate degree in biological sciences from the Koltsov Institute of Developmental Biology, USSR Academy of Sciences, Moscow in 1956, under the supervision of academician Ch.S.Koshtoiants. He received Doctoral degree in biological sciences in 1964 and became Professor of biochemistry in 1966. In 1971 A. Galoyan became Corresponding member of NAS RA (Chemistry of

Physiologically Active Compounds) and in 1986 Academician of NAS RA (biochemistry). He started to work in the H. Buniatian Institute of Biochemistry of NAS RA from 1958 and served as Director of the Institute of Biochemistry during 1981-2006. Acad. A. Galoyan was a member of many international communities and received numerous honorary awards. The detailed scientific pathway of Acad. A. Galoyan is presented below.

During the past 20 years Acad. A. Galoyan was among the leading investigators in Neuroendocrine Immunology, signalling molecules of the immune system of the brain. He initiated these studies in Armenian and Russian research institutions, simultaneously leading the Departments of Neurohormone Biochemistry at the H.Buniatian Institute of Biochemistry NAS RA in Yerevan and the A.N. Bach Institute of Biochemistry RAS in Moscow. Several overseas laboratories have also participated in these studies via international collaborative grant programs. For the years of meticulous investigations Acad. A. Galoyan and co-workers have succeeded in discovering and chemically identifying a number of hypothalamic neuroactive peptides, the synthetic analogues of which are now available. The immunomodulatory and neuroprotective effects of these compounds were demonstrated, and the findings were published in peer-reviewed journals and book chapters (for reviews see Galoyan A.A. 2004 Brain Neurosecretory Cytokines: Immune Response and Neuronal Survival. Kluwer Academic / Plenum Publishers, New York, p. 188; Lajtha A., Galoyan A., Besedovsky H., 2008 Handbook of Neurochemistry and Molecular Neurobiology: Neuroimmunology, 3rd Edition. Springer, New York). He was author/co-author of 500 full papers, 247 abstracts and 20 patents.

Acad. A. Galoyan was a President of the Armenian Association of Biochemists from 1981 until his death. The Armenian biochemical

community is deeply grieved by the loss of Acad. A. Galoyan and will always remember him as a distinguished and very active scientist.

*"...Most scientists are experts only in very narrow areas; able to approach only very specific aspects of a problem, but complex problems need approach from more than a narrow side. Galoyan combining medicine, chemistry, endocrinology, and immunology in his approaches is a rare individual, one of only very few these days who can be creative and innovative in a complex field. The accomplishments in his studies are more than impressive, they represents a major breakthrough. We salute an important leading member of the neuroscience community. Dr. Galoyan's findings have great potential for developing new therapeutic clinical procedures, not only in neurological but also in cardiological and endocrine pathological changes.... According to Galoyan a new area of neuroendocrine cardiology is established. His works shows a potential action neuropeptides formed in the brain on the rest of the organism. It is admirable how Galoyan could accomplish so much under circumstances that were not necessarily favorable and thus required a great deal of creativity, imagination and talent."*



**Professor Abel Lajtha,  
Director of Center for Neurochemistry  
(NY)  
Editor-in-chief of "Neurochemical  
Research"  
Preface on Special Issue in Honor of  
Professor Armen Galoyan  
Neurochem Res. (2010), 35:835-836.**

*Professor A. Lajtha and Professor A. Galoyan*

It was first in a sad personal note by his daughter Karina then in a release from his scientific secretary at the H. Buniatian Institute of Biochemistry in Yerevan, Armenia that I, and we, learned with great sorrows of the passing of our dear friend and distinguished colleague Armen Galoyan.

I knew the name Armen Galoyan since the early 1960s when, first with such a proposal in the literature, he was writing about cardiotropic activities of extracts of the hypothalamus (1962–1964) at a time when we were actively involved in the isolation and characterization of hypothalamic peptides controlling pituitary functions. I met him for the first time in 1972 in Yerevan on the occasion of the International Symposium on Neurochemistry organized by him and in which he showed their early results on cardioactive extracts of hypothalamic origin. We had just isolated and established the molecular structure (1969) of the hypothalamic thyrotropin releasing factor (TRF) and I remember discussing extensively with him the methodology and equipment he and his group would need to proceed and similarly characterize their cardiotropic peptides. On my invitation he came to my newly established laboratory at the Salk Institute in 1973.

In the following years the contributions of his laboratory became milestones in totally new concepts and with demonstration at the molecular level of cardioactive peptides of both hypothalamic (1978) and atrial (1979) origins, new cytokines from hypothalamus as unique regulators of immune competent cells in bone marrow. The primary structures of these brain immunomodulators were fully established (2001) with proline-rich polypeptides (PRPs) as major constituents. Galoyan introduced the terms of neuroendocrine immune system and neuroendocrine immunology. Then he and his group demonstrated and reported extensively on antibacterial,

immunotropic, neuroprotective and even antitumor properties of these PRPs and their analogues for the treatment of infectious, immune, neurodegenerative and cardiovascular diseases (2001–2009).

Armen Galoyan and co-workers published over 700 papers in world-widely known journals. The novel scientific results reported and discussed at numerous international symposia are summarized in three fundamental monographs under his name and in the Handbook of Neurochemistry and Molecular Neurobiology, 3rd ed., v. Neuroimmunology (2008). His latest book Brain Immune System Signal Molecules in Protection from Aerobic and Anaerobic Infections (Springer) was published last month...

Besides being a member of the Armenian academy of Sciences and director of the joint laboratory on Neuro-hormone Biochemistry with the Bach Institute of Biochemistry of the Armenian republic, Armen Galoyan was a fully accredited member of numerous scientific institutions throughout the world.

In closing, let me say that I also happen to know that the name of Armen Galoyan was suggested to the nominating committee of the Nobel Prize for Physiology or Medicine on at least two occasions in the last few years. His contribution will survive him and expand in the years to come.



***Roger Guillemin, MD, PhD  
Distinguished Professor, The Salk  
Institute, La Jolla California  
Nobel Prize for Physiology or  
Medicine 1977***

*Nobel laureate R. Guillemin  
and professor A. Galoyan*

The journal (Neurochemical Research), and publisher Springer, would like to express its sadness in the passing of a dear friend and long-time editor Professor Armen Galo-yan. He was recently honored on the occasion of his 80th birthday—Neurochemical Research 35(6), 2010. In the words of Abel Lajtha, “It is admirable how Galoyan could accomplish so much under circumstances that were not necessarily favorable and thus required a great deal of creativity, imagination, and talent.” The neuroscience community loses a leading member.



*Arne Schousboe, Editor-in-Chief  
Henry Sershen, Managing Editor  
Abel Lajtha, former Editor-in-Chief*

*A. Schousboe and A. Galoyan*