

Welcome to the International Association of Gerontology and Geriatrics European Region Congress 2019

23rd – 25th May 2019 in Gothenburg, Sweden



On behalf of the **International Association of Gerontology and Geriatrics – European Region** we welcome you to Gothenburg and the 9th IAGG-ER congress to present and share findings, ideas and innovations on multidisciplinary perspectives of ageing and the life-course.

The congress theme is '**Towards Capability in Ageing – from cell to society**'. The theme emphasizes our ability to perform actions in order to reach valued goals within the macro, meso, and micro contexts.

The congress is the natural meeting place for researchers and professionals engaged in various scientific enquires and aging matters; whether in biological science, medical and health sciences, social sciences, in humanities or aging services. The main track of the congress includes sessions on multidisciplinary aspects of



The congress is arranged in collaboration with the local Centre for Ageing and Health (AgeCap) at the University of Gothenburg, the two Swedish national associations; Swedish Gerontological Society (SGS), Geriatric Medicine in Sweden (SGF), both also members of the Nordic Gerontological Federation (NGF).

We look forward to meeting you in **Gothenburg May 23-25, 2019**

On behalf of the local Organizing Committee and IAGG-ER

*Boo Johansson Congress president, Ingmar Skoog Secretary General
Marie Kivi Deputy Secretary General and Clemens Tesch-Römer IAGG-ER
president*



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Universal Mechanism of Peptide Regulation of Gene Expression and Protein Biosynthesis in Nature

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Development of new technologies, aimed at inhibiting of pre-mature ageing and reducing the number of age-related diseases, is one of the topical issues of modern Biology and Medicine. Studies on efficacy of geroprotective preparations, which prevent ageing and increase the average lifespan, have become a focal point of research. At present, peptide bioregulators occupy a special place among such preparations.

Peptides application was carried out on 17 species of various organisms allowed us to conclude that living world has common mechanism of peptide regulation of gene expression and protein synthesis. Short peptides are able to penetrate into cells and nucleus. Complementary interaction of peptides with gene promoter regions is a signal for transcription. It induces gene expression and protein synthesis thus stimulating functions of various organs and increasing organism resource up to the species limit. Investigated short peptides induced specific changes in gene transcription in plants, insects, amphibia, birds, and mammals, including monkeys and humans, and contributed to protein synthesis and gene expression. This process was accompanied by normalization of functions of various systems and organs, as well as the increase in average and maximum life -span.

Small peptides revealed the capability of complementary interaction with the DNA-specific binding sites on the promoter segment of genes, inducing separation of double helix strands and RNA polymerase activation. Discovery of the phenomenon of peptide activation of gene transcription allows determining the mechanism to maintain physiological functions, which is based on the complementary interaction of the DNA and regulatory peptides. The peptide mechanism of vitality regulation in different species must be underlying the bases of evolution.
