



# INTERNATIONAL CONFERENCE ON CELL SCIENCE AND REGENERATIVE MEDICINE



**Gulsen Meral ,MBA,MD,PhD**

Epigenetic Coaching Company UK, President of the Nutrigenetic-Epigenetic Society Turkey, Epigenetic Coaching Founder

## The Role of Nutrigenetics and Epigenetics in Longevity: Can We Turn Back Our Epigenetic Clock?

**Abstract:** As the global population ages, understanding the biological mechanisms of longevity and healthy aging has become increasingly important. Aging is a systemic process that affects all biological systems and is characterized by an increased incidence of age-related degenerative diseases. DNA methylation plays a significant role in the aging process, with changes in methylation levels associated with age-related diseases. One-carbon metabolism, which includes folate and vitamin B12, supports DNA methylation, and high homocysteine levels are linked to age-related diseases.

The epigenetic clock uses DNA methylation patterns to estimate biological age and monitor the aging process. A healthy lifestyle helps align biological and chronological ages, but environmental factors can disrupt this balance. Regular monitoring of the epigenetic clock allows for the assessment of the effectiveness of dietary and lifestyle interventions. Nutrigenetic analysis has emerged as a valuable tool in examining the interaction between nutrition and genetics. Genetic factors can influence the absorption, metabolism, and utilization of various nutrients. Nutrigenetic analysis helps personalize dietary recommendations based on genetic profiles and reduce the risk of deficiencies.

Anti-aging encompasses a range of interventions aimed at slowing down or reversing the effects of aging. These strategies typically involve genetic, biochemical, and lifestyle changes. Combining nutrigenetic analysis with epigenetic clock data offers a comprehensive approach to supporting healthy aging and longevity.

**Biography:** Associate Professor Gülsen Meral graduated from Istanbul University Cerrahpaşa School of Medicine in 1994. She became a specialist in paediatrics in 2001. She is Associate Professor in Pediatrics and worked as a specialist as well as deputy chief physician and chief physician at several hospitals. She was the Rector's advisor between 2019-2021 at the Northern Cyprus ITU. She is also an Acupuncture instructor. She worked as a Nutrigenetics graduate course and lecturer and gave undergraduate and graduate courses on child development. She has many national and international publications, and worked on editorial boards and as reviewers. She has a Master's Degree in Hospital Management. She has a Turkish language literature undergraduate education. She completed PhD program in Medical Genetics. In addition to her scientific achievements, she is ambitious about poetry and has 5 poetry books. She is the Founder of the Nutrigenetics and Epigenetics Association, and has memberships in the Green Crescent and Rumelia Association, Istanbul Acupuncture Association, and International Society of Nutrigenetics & Nutrigenomics. She participated in the first and second International Epigenetic Congress as the president. She is still the organizer and educator of the Epigenetic Coaching Program. She is actively giving trainings on Nutrigenetic & Epigenetic Counselling to health professionals from all over the World as a certified CPD program. She continues research and training as the founder and manager of Epigenetic Coaching.