



1st Collaborative session

MOLECULAR BIOMARKERS AND STATISTICAL LEARNING IN PREDICTIVE, PREVENTIVE AND PERSONALISED MEDICINE

COOPERATION EVENT BETWEEN GENETICS ALBANIA AND NANOBALKAN REGIONAL CENTER

Tirana, Albania (September 30, 2025)

This session on Molecular Biomarkers and Statistical Learning in Predictive, Preventive, and Personalized Medicine, is part of the NanoBalkan Conference in proud collaboration with Genetics Albania.

This session stands at the intersection of nanotechnology, genetics, and molecular biology, reflecting a growing movement toward precision healthcare. By harnessing cutting-edge developments in molecular biomarkers and the power of statistical learning, we are redefining how diseases are predicted, prevented, and treated - moving from reactive to proactive medicine.

Our discussions will highlight the transformative potential of nanotechnological tools in biomarker discovery, data-driven models in patient stratification, and how collaborative frameworks between disciplines and institutions - such as this unique partnership between nanoBalkan and Genetics Albania - can accelerate progress toward truly personalized medicine.

Join us as we explore how cross-sector synergy and innovation are shaping the future of healthcare.

LOCATION:

NanoBalkan2025 will take place in Hotel Tirana International, Albania

DATE: September 30, 2025

ORGANISERS:

Event organized by Phantoms Foundation (Spain), NanoBalkan Regional Center and Albanian Society of Human Molecular Genetics (ASHMG) with the support from Albania Academy of Sciences and University of Tirana.

ORGANISING COMMITTE

Antonio Correia (Phantoms Foundation, Spain) - Coordinator

Arben Merkoçi (NanoBalkan, ICN2, Spain) - Co-coordinator

Merita Xhetani (ASHMG, University of Tirana)- Co-coordinator

Mirela Lika (ASHMG, University of Tirana)

Majlinda Vasjari (NanoBalkan, University of Tirana, Albania)

Pirro Hysi (King's College, London)

TENTATIVE PROGRAM

Chair person: Pirro Hysi

09:00-09:30 **Pirro Hysi** (King's College London, United Kingdom)- "Future opportunities and challenges in genomic medicine"

09:30-10:00 **Merita Xhetani** (University of Tirana, Albania)- "Exploring the Relationship Between Pregnancy Loss and Genetic Factors: An Examination of Fetal Chromosomal Abnormalities".

10:00-10:30 **Endri Visha** (Department of Health Science, Università del Piemonte Orientale)-" Discovery of Novel Functional SNPs in the IFNGR2 Region Associated with Multiple Sclerosis Pathogenesis Starting from GWAS Data"

Coffee break/poster session

Chair person: Mirela Lika

11:00-11:30 **Bani Tamraz** (University of California San Francisco, USA)- "Point of care use of pharmacogenetics",

11:30-12:00 **Christopher Bell** (Queen Mary University of London, United Kingdom)" *Epigenomic Insights into Human Health & Disease*",

12-00-12:30 **Sidorela Dunolli** (University Hospital Koço Gliozheni, Albania)- "*Artificial Intelligence in embryo selection: integrating genetic profile with morphology*"

Lunch break (12:30-14:00)

Chair person: Merita Xhetani

14:00-14:30 **Ajda Pristavec** (King's College London, United Kingdom)- "*Machine learning exploration of the human metabolism in health and disease*",

- 15:00- 15:30 **Mario Falchi** (King's College London, United Kingdom)- "*Microbiome: the human species' evolutionary waltz with bacteria*".
- 15:30-16:00 **Gazmend Temaj** (College UBT, Calabria, Prishtina, Kosovo)- *Targeted Ribosome Editing and RiboScreenTM: Novel Therapeutic Strategies for LAMB3-Related Junctional Epidermolysis Bullosa and Elastin Regeneration*
- 16:00-16:30 **Arta Lugaj** (University of Tirana, Albania)- "CT-DNA (circulating tumor DNA) as a non-invasive biomarker for monitoring tumor progression"
- 16:30- 17:00 **Meral Gavaz** (Genoks Genetics Center, Turkey) "Next-Generation Technologies in Modern Disease Diagnosis"