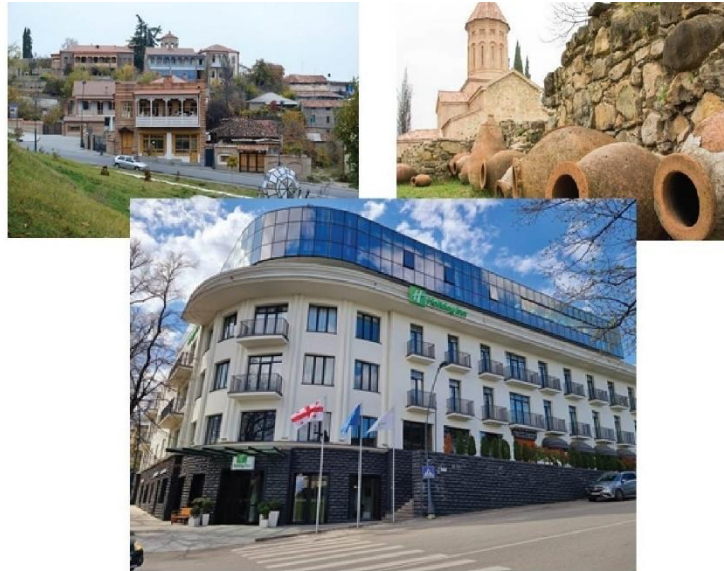




ESHG course

Translational Epigenetics in Precision Medicine

October 31-November 3, 2026

Holiday Inn

Telavi, Georgia

Preliminary program:

DAY 1 31/10		
Basic Concepts of Epigenetics		
10.45	Registration	
11.00-11.45	Opening remarks; Course overview; Self-introduction	Eka Kvaratskhelia Tinatin Tkemaladze
11.45-12.30	Epigenetic mechanisms: DNA methylation and demethylation; histone modifications and nucleosomes	Sebastian Alvarado, Queens College (CUNY), New York City, US
12.30-13.00	Coffee break	
13.00-13.45	DNA methylation epigenotypes fundamentals: from molecular profiles to AI biomarkers	Bekim Sadikovic, London Health Sciences Centre, ON, Canada
13.45-14.30	Mechanisms of chromatin remodeling, ATP-dependent chromatin remodeling, chromatin remodeling complexes	Sebastian Alvarado, Queens College (CUNY), New York City, US
14.30-15.30	Lunch break	

15.30-16.15	The Epigenetic Switch: X Inactivation, Stem Cells, and Cellular Reprogramming	Maral Tajerian, Queens College (CUNY), New York City, US
16.15-17.00	The imprinting cycle of life	Karen Temple, University of Southampton and University Hospital Southampton NHS Foundation Trust, Southampton, UK
17.00-17.30	Coffee break	
17.30-18.15	Statistical approaches in epigenetic studies	Inga Prokopenko, School of Biosciences, University of Surrey, Guildford, Surrey, UK
18.15-18.45	Temple syndrome – why early diagnosis improves outcome	Karen Temple, University of Southampton and University Hospital Southampton NHS Foundation Trust, Southampton, UK
19.00	Welcome Dinner	

DAY 2 01/11 Cancer Epigenetics		
09.00-09.45	Can we detect cancer risk before cancer? Environmental exposures, epigenetic age and precision prevention	Edyta Borkowska, Medical University of Łódź, Łódź, Poland
09.45-10.30	Epigenetic analysis using long-read sequencing data	Christian Gilissen, The Radboud University Medical Center, Nijmegen, the Netherlands
10.30-11.00	Coffee break	
11.00-11.45	Urine as an Epigenetic Window on Bladder Cancer: Methylation and Non-coding RNA Biomarkers	Edyta Borkowska, Medical University of Łódź, Łódź, Poland
11.45-12.30	Basic bioinformatics analysis of methylation data in cancer	German Demidov, Computational Oncology Group, Molecular Precision Oncology Program, National Center for Tumor Diseases (NCT), NCT Heidelberg, a partnership between the German Cancer Research Center (DKFZ) and Heidelberg University Hospital (UKHD), Heidelberg, Germany
12.30-13.30	Lunch break	
13.30-14.15	Basic bioinformatics analysis of methylation data in cancer	German Demidov, Computational Oncology Group, Molecular Precision Oncology Program, National Center for Tumor Diseases (NCT), NCT Heidelberg, a partnership between the German Cancer Research Center (DKFZ) and Heidelberg University Hospital (UKHD), Heidelberg, Germany
14.15-15.00	Genome Instability and Cancer: The Role of Repetitive Element Methylation	Ketevan Kankava, Tbilisi State Medical University, Tbilisi, Georgia
15.00-18.00	Going to Food and Wine tour	

DAY 3 02/11 Epigenetics in Rare Diseases		
09.00-09.45	Enhancers/gene regulation and how to look at non-coding sequences	Stefan Barakat, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands
09.45-10.30	Clinical Case Discussion: Orchestrating genetics and epigenetics from a clinical perspective: lessons from Rubinstein- Taybi and Cornelia de Lange syndromes.	Tinatin Tkemaladze, Tbilisi State Medical University, Tbilisi, Georgia
10.30-11.15	Workshop: Clinical applications of DNA methylation epigenatures in rare diseases	Bekim Sadikovic, London Health Sciences Centre, ON, Canada
11.15-11.45	Coffee break	
11.45-12.30	Dutch experience with RNUopathies	Stefan Barakat, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands
12.30-13.30	Lunch break	
13.30-14.15	Peculiarities of inheritance pattern of Angelman syndrome	Tinatin Tkemaladze, Tbilisi State Medical University, Tbilisi, Georgia
14.15-15.00	Using transcriptional regulatory assays to reveal the influence of functional non-coding variants (FNCVs)	John Greally, Albert Einstein College of Medicine, Bronx, New York, USA
15.00-15.30	Coffee break	
15.30-16.15	Unravelling chromatin remodelling in Nicolaides-Baraitser syndrome: From patients to models	Stephanie Efthymiou, UCL Queen Square Institute of Neurology, University College London, London, UK
16.15-17.00	Clinical Case Discussion	Course participants
18.00	Gala Dinner	

DAY 4 03/11 Environmental Epigenetics and Its Implications for Common Diseases		
09.00-09.45	Epigenetics as a component of integrative functional cellular organisation mediating genomic polymorphism effects	John Greally, Albert Einstein College of Medicine, Bronx, New York, USA
09.45-10.30	Epigenetic mechanisms of brain plasticity in the context of peripheral trauma	Maral Tajerian, Queens College (CUNY), New York City, US
10.30-11.00	Coffee break	
11.00-11.45	Translational Epigenetics: Animal model adoption for translational and basic research	Sebastian Alvarado, Queens College (CUNY), New York City, US
11.45-12.30	Epigenetic mechanisms: non-coding RNAs: Small interfering RNAs, MicroRNAs and their role in disease	Eka Kvaratskhelia, Tbilisi State Medical University, Tbilisi, Georgia
12.30-13.30	Lunch break	
13.30-14.15	Epigenetics in complex diseases: Cardiovascular diseases	Nino Pirtskhelani, Tbilisi State Medical University, Tbilisi, Georgia
14.15-15.00	Expanding the FSHD landscape: new genetic insights from diverse populations	Stephanie Efthymiou, UCL Queen Square Institute of Neurology, University College London, London, UK
15.00-15.30	Coffee break	
15.30-16.30	Written test	
16.30	Closing remarks	