

# BOOK of ABSTRACTS

## EXTREMOPHILES: FROM BIOLOGY TO BIOTECHNOLOGY

International Summer course  
August 19-25, 2018



ecobiome



National University of  
Uzbekistan  
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<http://www.ecobiome.uz>



Summer course

## EXTREMOPHILES

2018 Tashkent, Uzbekistan

Tashkent 2018

UO'K: 57.083  
KBK: 28.074.3  
K 94

**Nashrga tavsiya etiladi  
O'zbekiston Milliy Universiteti  
Biologiya Fakulteti**

Mikrobiologiya va biotexnologiyaning ilmiy yangiliklari. Xalqaro Yozgi kurs materiallari – T: "Ilm-Ziyo Zakovat" 2018 -40 bet.

Ushbu to'plam biologiya sohasidagi, xususan mikrobiologiya va biotexnologiya sohalardagi ilmiy yangiliklarni o'z ichiga olgan. Xalqaro Yozgi kursning maqsadi mikrobiologiya va biotexnologiya sohalarida ilmiy tadqiqot ishlari olib boradigan xalqaro taniqli olimlar va yosh izlanuvchi talabalar orasidagi fikrlar almashish, va bilimlarni mustahkamlashdir.

Yozgi kurs Norvegiyaning Ta'lim sohasida Xalqaro Hamkorlik Markazi (SIU) tomonidan moliyalashtirilgan va O'zbekiston Milliy Universiteti hamda Ecobiome R&D markazi bilan hamkorlikda tashkil etildi.

Abstract Book of International Summer course on "Extremophiles: from biology to biotechnology", Tashkent, "Ilm-Ziyo Zakovat i", 2018 – 40 Pages

In the proceedings of the Summer course scientific studies concerning microbiology and biotechnology of extremophiles are included. The goal of the international summer course is to bring together distinguished scientists and young researchers working in the field of diversity, metabolism, genetics and biotechnology of extremophilic microbes. The training course is organized within the framework of the Eurasian project "Network for improving research based higher education in basic and applied microbiology" supported by The Norwegian Center for International Cooperation in Education (SIU) in cooperation with the National University of Uzbekistan and Ecobiome R&D Center.

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**WELCOME NOTE OF THE ORGANIZING COMMITTEE**

**Dear Participants!**

On behalf of the Organizing Committee, we are glad to welcome you to the International Summer course on "Extremophiles: from Biology to Biotechnology".

The training course is organized within the framework of the Eurasian project "Network for improving research based higher education in basic and applied microbiology" supported by The Norwegian Center for International Cooperation in Education (SIU) in cooperation with the National University of Uzbekistan and Ecobiome R&D Center.

The aim of the workshop is the presentation of scientific and application studies on topics concerning Microbiology and Microbial Biotechnology of Extremophiles. The Program of summer course include the lectures of the most distinguished scientists working in the field of diversity, metabolism, genetics and biotechnology of extremophilic microbes. Welcome to Tashkent and we will do our best to make this meeting and your stay in Tashkent a memorable event. We wish to all of you a nice time, hoping that you will find this a very productive and stimulating scientific event, set up new collaborations and make new friendship.

## ANALYSIS OF THE POLYMORPHISM OF 24 STR LOCI IN THE POPULATION OF UZBEKISTAN

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According to the world standards of modern criminalistics, there is a need to use an expanded panel of genetic markers for 24 STR loci. Today in the practice of forensic expertise and forensic science of the Republic of Uzbekistan, there are no basic parameters of probabilistic statistical analysis for the enzymatic system of the «Global Filer™ PCR Amplification Kit», covers 24 STR-markers and recommended for identification and identification of biological relatedness. At present, the basic parameters of probabilistic statistical analysis for the indigenous Uzbek population based on the allele frequency of 16 STR polymorphic loci using the "Identifiler Plus™ PCR Amplification Kit" have been studied and identified in Uzbekistan. However, this limits the conduct of an objective examination in the field of identity and the calculation of the biological kinship of the population of Uzbekistan, where representatives of different nationalities live. In this regard, the introduction of forensic identification of 24 STR loci is an urgent research task. One of the initial goals of the research were collection of samples, questioning and preparation of genomic DNA from 12 regions of Uzbekistan. Because of the work, 105-150 samples from each area pranked, collected and prepared. At the same time, persons of different nationalities were included in the cohort group: Uzbeks, Karakalpaks, Kazakhs, Tatars, Koreans, etc. The main criteria for determining personal authenticity in the questionnaire was the indication of the name and sex, the ethnicity of the ancestors, the place of residence, the place of birth, and the signature on the voluntary delivery of saliva samples. Thus, data collected and DNA samples were prepared from all regions of Uzbekistan. Further, allele frequencies of 24 autosomal short tandem repeat (STR) loci - D3S1358, vWA, D16S539, CSF1PO, TPOX, Y indel, Amelogenin, D8S1179, D21S11, D18S51, DYS391, D2S441, D19S433, TH01, FGA, D22S1045, D5S818, D13S317, D7S820, SE33, D10S1248, D1S1656, D12S391 and D2S1338 will be identified among Uzbeks, Karakalpaks, Kazakhs, Tatars, Koreans, etc. The results on the frequency of vasterability of the tested STR markers will serve as the basis for accounting standards used in the future to evaluate the results of molecular genetic identification.

**Key words:** Identification, relationship, loci, allele frequency, Uzbekistan Population, *Global Filer*, short tandem repeat

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