

International Conference on

# ENVIRONMENTAL MICROBIOLOGY & MICROBIAL ECOLOGY

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# ECOLOGY, ECOSYSTEMS & CONSERVATION BIOLOGY

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## **Functional folk food concept based on consumption of ethnical products and epigenetic algorithm for personal nutrition calculation for implementation and exploitation by European Union citizens**

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**Statement of the Problem:** To strengthen European citizens to make dietary choices as the healthy diet, which is sustainable and affordable using local goods that are produced in the environmentally responsible way for further improving food systems.

**Methodology & Theoretical Orientation:** Clinical trials, cohort studies, *in vitro* and *in vivo* experiments (cells, animal models: CNV vs. GF and k.o. mice, etc.), mathematical modeling, IT tools.

**Findings:** We are currently testing is the personalized nutrition algorithm (PNA). However, it is being tested only for specific diseases, which limits the use of those approaches for personalized nutrition to only those cases. FENIX proposes to exploit an easy-to-use coherent tool to make recommendations for PN requirements that meet the precise needs of EU citizens. Proposed by FENIX tool is based on measurements and an innovative bioinformatics approach for interpretation of individual microbiome data with other relevant and crucial factors (evidence-based and correlated biomarkers, calculating age, gender and indicating personal health status, personal nutritional requirements, food composition data, lifestyle specificity, cultural preferences, environment conditions) and also consider the available source and analytical characteristics of ethnic foods and innovative food processing approach of further individualisation proposed for local farmers and food producers.

**Conclusion & Significance:** All NCDs, allergies, other so-called “metabolic disorders” correlate with human microbiome status. Normal microbiome depends on the region where a person lives. In fact, the project presents a new way of the understanding microbiome – function. FENIX will also consider the origin of food taking into account its nutritional value and unique composition since different food affects different people in different ways, as well as the different origin of one product, affect the same person differently.

### **Biography**

Nadiya Boyko has defended her PhD in 1994 and doctor degree in 2010. From 2000 until 2005 she occupied sabbatical Research Fellow position in Laboratory of Mucosal Immunology in University of Pennsylvania, USA. She is permanently working as professor at the Uzhhorod National University, and occupied following positions: Director of the R&D Centre of Molecular Microbiology and Mucosal Immunology; Vice-President and CSO of CLS in Slovakia and co-founder and CEO of Ediens LLC. Research interests are: P4 medicine, personalized nutrition, pharmabiotics, human microbiome, noncommunicable diseases; food safety, knowledge transfer. Co-establisher of Ukrainian and Slovak Technology Platforms “Agro-Food”; experienced stakeholder manager with links to industry, academia and researchers in Europe.

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